



Australian Government

FDF10 Food Processing

Release: 4.0

CONTENTS

Imprint	21
Preliminary Information	22
Full List of AQF Qualifications in FDF10v4 Training Package	22
Full List of Units of Competency including Imported Units	24
Qualification Mapping of FDF10 - all Versions	62
Unit Mapping FDF10v3 to FDF10v4.....	66
Unit Mapping FDF10v2 to FDF10v3.....	67
Unit Mapping SUG02 to FDF10v2	73
Unit Mapping FDF03 to FDF10v2.....	75
Overview	88
Qualifications Framework.....	97
Qualification Pathways.....	103
Assessment Guidelines	116
Assessment Guidelines - Industry Contextualisation.....	128
Competency Standards.....	138
Competency Standards - Industry Contextualisation.....	144
FDF10111 Certificate I in Food Processing	146
FDF10210 Certificate I in Pharmaceutical Manufacturing	153
FDF11012 Certificate I in Sugar Milling Industry Operations	159
FDF20111 Certificate II in Food Processing.....	165
FDF20211 Certificate II in Pharmaceutical Manufacturing.....	178
FDF20411 Certificate II in Wine Industry Operations	187
FDF20510 Certificate II in Retail Baking Assistance	203
FDF20911 Certificate II in Food Processing (Sales)	209
FDF21012 Certificate II in Sugar Milling Industry Operations.....	221
FDF30111 Certificate III in Food Processing	230
FDF30210 Certificate III in Pharmaceutical Manufacturing	241
FDF30310 Certificate III in Plant Baking.....	249
FDF30411 Certificate III in Wine Industry Operations.....	258
FDF30510 Certificate III in Retail Baking (Cake and Pastry)	278
FDF30610 Certificate III in Retail Baking (Bread)	285
FDF30710 Certificate III in Retail Baking (Combined)	291
FDF30910 Certificate III in Food Processing (Sales).....	298
FDF31012 Certificate III in Sugar Milling Industry Operations	307
FDF40110 Certificate IV in Food Processing	316
FDF40210 Certificate IV in Pharmaceutical Manufacturing	326
FDF40311 Certificate IV in Food Science and Technology.....	336
FDF40811 Certificate IV in Advanced Baking.....	348
FDF41012 Certificate IV in Flour Milling	358
FDF50110 Diploma of Food Processing	369
FDF50210 Diploma of Pharmaceutical Manufacturing	377
FDF50311 Diploma of Food Science and Technology.....	386
FDFSS00001 Cellar Door Sales Induction.....	398
FDFSS00002 Cellar Hand Induction.....	400
FDFSS00003 Chemical Handling Certification.....	402
FDFSS00004 Confined Space.....	404
FDFSS00005 Distillation Operations.....	406
FDFSS00006 Evaporator Station Operator.....	408
FDFSS00007 Food Safety	410

FDFSS00008 Forklift Operations	412
FDFSS00009 Fugal Operator	414
FDFSS00010 Hand Pruning Induction	416
FDFSS00011 Irrigation.....	418
FDFSS00012 Loco Driver.....	420
FDFSS00013 Manual Handling	421
FDFSS00014 Mechanical Harvesting for Seasonal Workers	423
FDFSS00015 Platform Operator	425
FDFSS00016 Responsible Service of Alcohol	427
FDFSS00017 Risk Management	429
FDFSS00018 Seasonal Nursery Induction	431
FDFSS00019 Sugar Boiler.....	433
FDFSS00020 Trellis Management.....	435
FDFSS00021 Vintage Laboratory Operations	437
FDFSS00022 Warehouse Induction.....	439
FDFSS00023 Water Tender	441
FDFSS00024 Wine Evaluation.....	443
FDFAU4001A Assess compliance with food safety programs.....	445
FDFAU4002A Communicate and negotiate to conduct food safety audits.....	458
FDFAU4003A Conduct food safety audits.....	467
FDFAU4004A Identify, evaluate and control food safety hazards.....	484
FDFAU4005A Audit bivalve mollusc growing and harvesting processes	497
FDFAU4006A Audit a cook chill process.....	507
FDFAU4007B Audit a heat treatment process	520
FDFAU4008A Audit manufacturing of ready-to-eat meat products	533
FDFBK2001A Operate a cooling and slicing process	547
FDFBK2002A Operate a pastry forming and filling process.....	557
FDFBK2003A Manufacture rye crisp breads	568
FDFBK2004A Manufacture wafer products	578
FDFBK2005A Operate a doughnut making process	588
FDFBK2006A Operate a griddle production process.....	599
FDFBK2007A Operate a pastry production process	610
FDFBP2001A Operate the bottle supply process.....	621
FDFBP2002A Operate the carton erection process	630
FDFBP2003A Operate the carton packing process	639
FDFBP2004A Operate the bottle sealing process.....	648
FDFBP2005A Operate the electronic coding process	657
FDFBP2006A Operate traditional sparkling wine processes.....	667
FDFBP2007A Operate the tirage and transfer process	677
FDFBP2008A Perform packaging equipment changeover	686
FDFBP2009A Operate the bottle capsuling process	695
FDFBP2010A Operate manual bottling and packaging processes	704
FDFBP2011A Operate the palletising process.....	714
FDFBP3001A Operate the bottle filling process	723
FDFBP3002A Operate the labelling process	732
FDFBP3003A Operate the softpack filling process.....	741
FDFBV2001A Operate a deaeration, mixing and carbonation process	750
FDFBV2002A Manufacture coffee (roast and ground)	760
FDFBV2003A Operate an ice manufacturing process.....	770
FDFCD2001A Conduct winery and or site tours	779
FDFCD2002A Promote wine tourism information	791
FDFCD2003A Evaluate wines (standard).....	803
FDFCD2004A Perform cellar door stock control procedure.....	815

FDFCD2005A Sell cellar door products and services.....	826
FDFCD2006A Conduct a standard product tasting	839
FDFCD3001A Evaluate wines (advanced).....	852
FDFCD3002A Conduct a specialised product tasting	861
FDFCD3003A Coordinate winery hospitality activities	872
FDFCEL2001A Perform oak handling activities	883
FDFCEL2002A Perform fermentation operations	892
FDFCEL2003A Operate the ion exchange process.....	901
FDFCEL2004A Perform single column lees stripping (continuous still brandy) operations.....	910
FDFCEL2005A Operate the pressing process.....	920
FDFCEL2006A Operate clarification by separation (centrifugation) process.....	930
FDFCEL2007A Prepare and monitor wine cultures	939
FDFCEL2008A Perform dual column distillation (continuous still brandy) operations ..	949
FDFCEL2009A Perform first distillation (pot still brandy) operations	959
FDFCEL2010A Operate the fine filtration process	968
FDFCEL2011A Perform heat exchange operations	977
FDFCEL2012A Handle spirits.....	985
FDFCEL2013A Operate the pressure leaf filtration process.....	992
FDFCEL2014A Operate the rotary vacuum filtration process	1000
FDFCEL2015A Perform must draining operations	1008
FDFCEL2016A Operate the crushing process	1018
FDFCEL2017A Prepare and make additions and finings.....	1027
FDFCEL2018A Carry out inert gas handling operations	1036
FDFCEL2019A Carry out transfer operations	1044
FDFCEL2020A Prepare and wax tanks	1054
FDFCEL3001A Perform second distillation (pot still brandy) operations	1062
FDFCEL3002A Operate the continuous clarification by separation (flotation) process.....	1072
FDFCEL3003A Operate the concentration process	1081
FDFCEL3004A Perform de-aromatising, de-alcoholising or de-sulphuring operations.....	1089
FDFCEL3005A Perform rectification (continuous still) operations	1098
FDFCH3001A Coordinate cheese making operations	1108
FDFCH3002A Carry out processes for a range of artisan cheeses.....	1118
FDFCH4001A Carry out sampling and interpret tests for cheese production.....	1129
FDFCH4002A Produce acid-coagulated soft cheese	1140
FDFCH4003A Produce a range of rennet-coagulated cheeses.....	1150
FDFCH4004A Produce acid - heat coagulated cheese	1163
FDFCON2001A Examine raw ingredients used in confectionery	1172
FDFCON2002A Operate a boiled confectionery process	1182
FDFCON2003A Operate a chocolate conching process	1193
FDFCON2004A Operate a chocolate depositing or moulding process	1203
FDFCON2005A Operate a confectionery depositing process	1213
FDFCON2006A Operate a granulation and compression process.....	1223
FDFCON2007A Operate a panning process.....	1235
FDFCON2008A Operate a chocolate refining process	1245
FDFCON2009A Operate a starch moulding process.....	1256
FDFDP2001A Operate a butter churning process.....	1268
FDFDP2002A Operate a butter oil process	1278
FDFDP2003A Operate a curd production and cutting process	1289
FDFDP2004A Operate a cooling and hardening process	1299
FDFDP2005A Operate a cheese pressing and moulding process.....	1309
FDFDP2006A Operate a fermentation process	1318
FDFFS1001A Follow work procedures to maintain food safety	1328
FDFFS2001A Implement the food safety program and procedures	1338

FDFFS3001A Monitor the implementation of quality and food safety programs	1349
FDFFS4001A Supervise and maintain a food safety plan	1361
FDFFS4002A Supervise and verify supporting programs for food safety.....	1370
FDFFS5001A Develop a HACCP-based food safety plan	1381
FDFFFST4001A Apply food processing technologies	1391
FDFFFST4002A Monitor the development and implementation of a food QA system	1399
FDFFFST4003A Apply digital technology in food processing	1407
FDFFFST4004A Perform microbiological procedures in the food industry	1415
FDFFFST4005A Document processes and procedures for a food product.....	1423
FDFFFST4006A Apply food preservation technologies	1429
FDFFFST4007A Establish operational requirements for a food processing enterprise	1438
FDFFFST4008A Preserve food in cans or sealed containers.....	1447
FDFFFST4009A Label foods according to legislative requirements	1455
FDFFFST4010A Apply sensory analysis in food processing	1460
FDFFFST4011A Apply the principles of nutrition to food processing.....	1465
FDFFFST4012A Apply water management principles to the food industry	1473
FDFFFST4020A Implement and review the processing of market milk and related products.....	1480
FDFFFST4021A Carry out sampling and testing of milk at receipt.....	1488
FDFFFST4022A Implement and review the preparation of milk for processing.....	1495
FDFFFST4030A Implement and review the processing of chocolate and sugar-panned products	1503
FDFFFST4031A Implement and review the processing of aerated confectioneries.....	1512
FDFFFST4032A Implement and review the production of gums and jellies.....	1520
FDFFFST4033A Implement and review the production of chocolate products	1528
FDFFFST4034A Implement and review the processing of chocolate.....	1535
FDFFFST4035A Implement and review the processing of high and low boil confectionery.....	1542
FDFFFST4036A Implement and review the processing of confectionery products.....	1550
FDFFFST4040A Identify & implement product safety and quality for chilled or frozen poultry product manufacturing.....	1558
FDFFFST4041A Identify and implement product safety and quality for cooked poultry product manufacturing	1568
FDFFFST4042A Identify and implement product safety and quality for egg based product manufacturing.....	1578
FDFFFST4050A Identify & implement product safety and quality for processing of fruit, vegetables & other produce	1586
FDFFFST4051A Identify and implement product safety and quality processes for fish and seafood products	1593
FDFFFST4052A Implement and review the manufacturing and processing of edible fats and oils	1600
FDFFFST4053A Implement and review manufacturing, packaging and testing of beverage products	1607
FDFFFST4054A Identify and implement product safety for manufacturing of cereal products	1614
FDFFFST5001A Monitor refrigeration and air conditioning systems in food processing	1621
FDFFFST5002A Identify and implement required process control for a food processing operation.....	1628
FDFFFST5003A Construct a process control chart for a food processing operation.....	1634
FDFFFST5004A Specify and monitor the nutritional value of processed food	1641
FDFFFST5005A Identify the biochemical properties of food	1648
FDFFFST5006A Apply food microbiological techniques and analysis	1655
FDFFFST5007A Evaluate sampling plans in relation to food industry standards	1664
FDFFFST5008A Develop a new food product	1669
FDFFFST5023A Implement and review the production of milk fat products	1675

FDFST5024A Implement and review the production of fermented dairy products and dairy desserts.....	1682
FDFST5025A Implement and review the production of concentrated and dried dairy products	1690
FDFST5026A Implement and review the production of ice creams and frozen dairy products	1699
FDFST5027A Implement and review the production of milk and related products by the membrane system	1707
FDFST5030A Develop, manage and maintain quality systems for food processing	1716
FDFV2001A Apply hydro-cooling processes to fresh produce.....	1728
FDFV3001A Conduct chemical wash for fresh produce.....	1737
FDFV3002A Program fresh produce grading equipment	1746
FDFGPS2001A Operate a bleaching process	1752
FDFGPS2002A Operate a comploting process	1762
FDFGPS2003A Operate a deodorising process.....	1772
FDFGPS2004A Operate a flake preparation process.....	1781
FDFGPS2005A Operate a fractionation process.....	1793
FDFGPS2006A Operate a hydrogenation process.....	1803
FDFGPS2007A Operate an interesterification process	1814
FDFGPS2008A Operate a neutralisation process	1823
FDFGPS2009A Operate a soap splitting process	1833
FDFGPS2010A Operate a winterisation process	1842
FDFGPS2011A Operate a creamed honey manufacture process	1853
FDFGR2001A Operate a liquid, mash or block stockfeed process	1863
FDFGR2002A Understand mill operations and technologies	1874
FDFGR2003A Operate a grain conditioning process	1882
FDFGR2004A Operate a grain cleaning process	1891
FDFGR2005A Operate a purification process	1903
FDFGR2006A Operate a scalping and grading process.....	1913
FDFGR2007A Operate a scratch and sizing process.....	1922
FDFGR2008A Operate a break roll process	1932
FDFGR2009A Operate a pelleting process.....	1942
FDFGR2010A Handle grain in a storage area	1953
FDFGR2011A Receive grain for malting.....	1963
FDFGR2012A Prepare malted grain	1971
FDFGR2013A Blend and dispatch malt	1979
FDFGR3001A Work with micronutrients or additions in stockfeed manufacturing processes	1987
FDFGR3002A Demonstrate knowledge of animal nutrition principles.....	1994
FDFGR3003A Lead flour milling shift operations.....	2000
FDFGR3004A Control mill processes and performance.....	2010
FDFGR4001A Control power and automation for milling processes	2020
FDFGR4002A Supervise testing processes for wheat and flour	2027
FDFGR4003A Manage mill logistics and support services	2036
FDFGR4004A Establish and supervise dust control procedures in a grain processing enterprise	2045
FDFLAB2001A Perform basic analytical tests.....	2053
FDFLAB2002A Perform basic microbiological tests.....	2061
FDFLAB2003A Perform basic packaging tests and inspections	2069
FDFLAB2004A Prepare laboratory solutions and stains.....	2078
FDFLAB2005A Prepare and pour culture media.....	2085
FDFLAB2006A Record laboratory data.....	2093
FDFLAB2007A Standardise laboratory solutions	2101

FDFLAB2008A Analyse laboratory data.....	2109
FDFLAB2009A Perform packaging quality control procedures	2116
FDFLAB2010A Prepare product or show samples.....	2126
FDFLAB2011A Use basic laboratory equipment.....	2136
FDFLAB2012A Maintain aseptic environment.....	2143
FDFLAB3001A Use computer technology for laboratory applications	2151
FDFLAB3002A Perform non-routine or specialised tests.....	2160
FDFLAB3003A Perform routine troubleshooting procedures	2169
FDFLAB3004A Check and maintain readiness of wine testing equipment.....	2177
FDFLAB3005A Perform instrumental tests or procedures on wine samples.....	2185
FDFOHS1001A Work safely	2195
FDFOHS2001A Participate in OHS processes	2208
FDFOHS3001A Contribute to OHS processes	2218
FDFOHS4001A Identify, assess and control OHS risk in own work	2231
FDFOHS4002A Maintain OHS processes	2246
FDFOHS5001A Manage OHS processes	2261
FDFOP1001A Pack or unpack product manually	2277
FDFOP1002A Operate automated washing equipment	2285
FDFOP1003A Carry out manual handling tasks	2293
FDFOP1004A Prepare basic mixes	2300
FDFOP1005A Operate basic equipment.....	2309
FDFOP1006A Monitor process operation	2317
FDFOP1007A Participate effectively in a workplace environment.....	2323
FDFOP1008A Take and record basic measurements.....	2329
FDFOP1009A Follow work procedures to maintain quality.....	2335
FDFOP1010A Communicate workplace information	2341
FDFOP2001A Work effectively in the food processing industry.....	2347
FDFOP2002A Inspect and sort materials and product	2356
FDFOP2003A Clean equipment in place	2364
FDFOP2004A Clean and sanitise equipment	2373
FDFOP2005A Work in a socially diverse environment.....	2381
FDFOP2006A Operate a bulk dry goods transfer process.....	2387
FDFOP2007A Work in a freezer storage area	2396
FDFOP2008A Operate a bulk liquid transfer process	2402
FDFOP2009A Load and unload tankers.....	2411
FDFOP2010A Work with temperature controlled stock.....	2422
FDFOP2011A Conduct routine maintenance.....	2430
FDFOP2012A Maintain food safety when loading, unloading and transporting food	2439
FDFOP2013A Apply sampling procedures	2447
FDFOP2014A Participate in sensory analyses	2455
FDFOP2015A Apply principles of statistical process control.....	2461
FDFOP2016A Work in a food handling area for non-food handlers.....	2466
FDFOP2017A Operate a blending, sieving and bagging process	2474
FDFOP2018A Operate a case packing process	2486
FDFOP2019A Fill and close product in cans.....	2496
FDFOP2020A Operate a form, fill and seal process	2507
FDFOP2021A Operate a fill and seal process	2518
FDFOP2022A Operate a high speed wrapping process	2529
FDFOP2023A Operate a packaging process	2539
FDFOP2024A Operate a cooling, slicing and wrapping process	2551
FDFOP2025A Manufacture extruded and toasted products	2561
FDFOP2026A Operate a forming or shaping process	2571
FDFOP2027A Dispense non-bulk ingredients.....	2581

FDFOP2028A Operate a mixing or blending process.....	2590
FDFOP2029A Operate a baking process	2602
FDFOP2030A Operate a process control interface.....	2612
FDFOP2031A Operate a coating application process	2620
FDFOP2032A Work in a clean room environment.....	2631
FDFOP2033A Operate a depositing process	2638
FDFOP2034A Operate an evaporation process	2648
FDFOP2035A Operate an enrobing process	2658
FDFOP2036A Operate an extrusion process.....	2669
FDFOP2037A Operate a filtration process.....	2681
FDFOP2038A Operate a grinding process	2690
FDFOP2039A Operate a frying process	2700
FDFOP2040A Operate a heat treatment process.....	2709
FDFOP2041A Operate a mixing or blending and cooking process.....	2719
FDFOP2042A Operate a drying process.....	2731
FDFOP2043A Operate an homogenising process	2741
FDFOP2044A Operate a retort process.....	2751
FDFOP2045A Operate pumping equipment	2762
FDFOP2046A Operate a production process	2771
FDFOP2047A Operate a portion saw	2780
FDFOP2048A Pre-process raw materials	2788
FDFOP2049A Operate a reduction process.....	2797
FDFOP2050A Operate a separation process	2807
FDFOP2051A Operate a spreads production process	2818
FDFOP2052A Operate a chocolate tempering process	2828
FDFOP2053A Operate a washing and drying process	2837
FDFOP2054A Operate a water purification process	2847
FDFOP2055A Freeze dough.....	2856
FDFOP2056A Operate a freezing process	2864
FDFOP2057A Operate a membrane process.....	2874
FDFOP2058A Operate a holding and storage process	2884
FDFOP2059A Operate a continuous freezing process.....	2893
FDFOP2060A Operate an automated cutting process.....	2904
FDFOP2061A Use numerical applications in the workplace	2913
FDFOP2062A Apply work procedures to maintain integrity of product	2919
FDFOP2063A Apply quality systems and procedures.....	2927
FDFOP2064A Provide and apply workplace information	2935
FDFOP2065A Work in confined spaces in the food and beverage industries	2944
FDFOP2066A Operate a wort production process	2956
FDFOP2067A Operate a brewery fermentation process.....	2965
FDFOP2068A Operate a beer maturation process	2973
FDFOP2069A Operate a beer filtration process	2982
FDFOP2070A Operate a bright beer tank process	2990
FDFOP2071A Identify key stages and beer production equipment in a brewery	2998
FDFOP2072A Operate a beer filling process	3006
FDFOP2073A Operate a beer packaging process.....	3014
FDFOP2074A Prepare and monitor beer yeast propagation processes.....	3021
FDFOP3001A Control contaminants and allergens in the workplace	3030
FDFOP3002A Set up a production or packaging line for operation	3040
FDFOP3003A Operate interrelated processes in a production system.....	3049
FDFOP3004A Operate interrelated processes in a packaging system	3060
FDFOP3005A Prepare food products using basic cooking methods.....	3071
FDFOP3006A Identify cultural, religious and dietary considerations for food production.....	3078

FDFPB3001A Operate a dough mixing process	3086
FDFPB3002A Operate a final prove and baking process.....	3097
FDFPB3003A Operate a dough make up process	3107
FDFPH1001A Follow work procedures to maintain Good Manufacturing Practice	3117
FDFPH2001A Apply Good Manufacturing Practice procedures.....	3125
FDFPH2002A Operate a concentration process	3134
FDFPH2003A Operate an extraction process	3142
FDFPH2004A Operate a separation process using chromatography	3150
FDFPH2005A Operate an aseptic fill and seal process	3159
FDFPH2006A Operate an aseptic form, fill and seal process	3170
FDFPH2007A Coordinate a label store.....	3182
FDFPH2008A Operate a compressing process.....	3188
FDFPH2009A Dispense pharmaceutical raw materials	3199
FDFPH2010A Operate an encapsulation process	3208
FDFPH2011A Operate a granulation process	3220
FDFPH2012A Operate a liquid manufacturing process	3231
FDFPH2013A Operate a tablet coating process.....	3243
FDFPH2014A Operate a terminal sterilisation process	3254
FDFPH3001A Monitor and maintain Good Manufacturing Practice procedures	3264
FDFPH4001A Prepare and review workplace documentation to support Good Manufacturing Practice	3274
FDFPH4002A Facilitate and monitor Good Manufacturing Practice	3282
FDFPH4003A Facilitate contamination control.....	3293
FDFPH4004A Participate in change control procedures	3302
FDFPH4005A Participate in validation processes	3311
FDFPH4006A Respond to non-conformance	3321
FDFPO2001A Operate a dicing, stripping or mincing process.....	3328
FDFPO2002A Operate an evisceration process	3338
FDFPO2003A Grade carcass	3348
FDFPO2004A Harvest edible offal	3356
FDFPO2005A Operate a marinade injecting process.....	3364
FDFPO2006A Operate a washing and chilling process	3374
FDFPO2007A Operate the bird receival and hanging process.....	3384
FDFPO2008A Operate a stunning, killing and defeathering process	3393
FDFPO2009A Work in an egg grading floor.....	3403
FDFPO2010A Operate egg grading and packing floor equipment	3412
FDFPO3001A Operate a chickway system	3423
FDFPO3002A Debone and fillet product (manually)	3433
FDFPPL2001A Participate in work teams and groups	3442
FDFPPL3001A Participate in improvement processes.....	3448
FDFPPL3002A Report on workplace performance.....	3456
FDFPPL3003A Support and mentor individuals and groups.....	3462
FDFPPL3004A Lead work teams and groups.....	3470
FDFPPL3005A Participate in an audit process.....	3478
FDFPPL3006A Establish compliance requirements for work area	3486
FDFPPL4001A Manage people in the work area.....	3492
FDFPPL4002A Plan and coordinate maintenance	3499
FDFPPL4003A Schedule and manage production.....	3509
FDFPPL4004A Optimise a work process	3518
FDFPPL4005A Establish process capability	3527
FDFPPL4006A Manage a work area within budget.....	3533
FDFPPL4007A Manage supplier agreements and contracts	3540
FDFPPL4008A Manage internal audits.....	3546

FDFPPL5001A Design and maintain programs to support legal compliance.....	3557
FDFRB1001A Finish products.....	3567
FDFRB2001A Form and fill pastry products.....	3575
FDFRB2002A Prepare fillings.....	3583
FDFRB2003A Produce meringue-based products.....	3591
FDFRB2004A Provide production assistance for bread products.....	3599
FDFRB2005A Provide assistance in cake, pastry and biscuit production.....	3606
FDFRB3001A Produce pastry.....	3615
FDFRB3002A Produce bread dough.....	3623
FDFRB3003A Produce sponge, cake and cookie batter.....	3631
FDFRB3004A Decorate cakes and cookies.....	3639
FDFRB3005A Bake bread.....	3648
FDFRB3006A Bake sponges, cakes and cookies.....	3656
FDFRB3007A Bake pastry products.....	3664
FDFRB3008A Store, handle and use frozen dough.....	3672
FDFRB3009A Retard dough.....	3681
FDFRB3010A Process dough.....	3689
FDFRB3011A Diagnose and respond to product and process faults (bread).....	3698
FDFRB3012A Diagnose and respond to product and process faults (pastry, cake and cookies).....	3706
FDFRB3013A Produce artisan breads.....	3714
FDFRB3014A Produce sweet yeast products.....	3722
FDFRB3015A Produce and decorate gateaux and tortes.....	3733
FDFRB3016A Plan and schedule production for retail bakery.....	3742
FDFRB3017A Participate in product development.....	3748
FDFRB4001A Apply marketing principles to retail bakery.....	3754
FDFRB4002A Control bakery operations to meet quality and production requirements.....	3762
FDFRB4003A Apply baking science to work practices.....	3770
FDFRB4004A Produce sourdough products.....	3779
FDFRB4005A Apply advanced finishing techniques for specialty cakes and desserts.....	3788
FDFRB4006A Explore and apply baking techniques to develop new products.....	3799
FDFRB4007A Evaluate and assess bakery product.....	3806
FDFRB4008A Set up sustainable baking operations.....	3814
FDFRB4009A Coordinate material supply for baking processes.....	3822
FDFRB4010A Prepare plated sweets and desserts.....	3829
FDFSUG101A Install pre-ballast.....	3837
FDFSUG102A Undertake shunting operations.....	3843
FDFSUG103A Move cane bins in a marshalling yard.....	3849
FDFSUG104A Check a cane sample for extraneous matter.....	3856
FDFSUG105A Manually clean and maintain housekeeping standards.....	3861
FDFSUG201A Lay sleepers for cane rail systems.....	3866
FDFSUG202A Lay rails for cane rail systems.....	3873
FDFSUG203A Lay skeleton track for cane rail system.....	3881
FDFSUG204A Operate tamping equipment.....	3888
FDFSUG205A Construct turnouts.....	3896
FDFSUG206A Drive a cane locomotive.....	3903
FDFSUG207A Conduct cane weighbridge operations.....	3912
FDFSUG208A Operate a tipping station.....	3918
FDFSUG209A Operate an extraction station.....	3925
FDFSUG210A Operate a juice clarification process.....	3933
FDFSUG211A Operate a mud filtration process.....	3941
FDFSUG212A Chemically clean equipment.....	3949
FDFSUG213A Operate a pans station.....	3957

FDFSUG214A Operate a low grade fugal station	3965
FDFSUG215A Operate a high grade fugal station	3973
FDFSUG216A Operate a crystalliser station process	3981
FDFSUG217A Operate a turbine	3989
FDFSUG218A Operate a boiler - basic	3997
FDFSUG219A Operate a bagasse fuel supply system.....	4007
FDFSUG220A Operate a coal fuel supply system.....	4015
FDFSUG221A Operate an ash separation system	4023
FDFSUG222A Operate a waste water treatment system	4031
FDFSUG223A Operate a cooling water system	4038
FDFSUG224A Perform standard tests on cane samples	4045
FDFSUG225A Collect and prepare samples	4051
FDFSUG226A Perform general drilling operations	4056
FDFSUG227A Perform general lathe operations	4062
FDFSUG228A Perform general milling operations.....	4068
FDFSUG229A Perform general planing and shaping operations	4074
FDFSUG230A Undertake forming, bending and shaping	4080
FDFSUG231A Undertake simple fabrication.....	4086
FDFSUG301A Drive a master-slave locomotive	4091
FDFSUG302A Control cane traffic movements.....	4100
FDFSUG303A Adjust cane delivery schedules to meet daily milling requirements	4108
FDFSUG304A Operate a boiler intermediate	4114
FDFSUG305A Operate a boiler advanced.....	4124
FDFSUG306A Monitor a sugar mill powerhouse	4134
FDFSUG307A Perform factory control tests.....	4141
FDFSUG308A Analyse and convey workplace information	4147
FDFSUG309A Operate a sugar system.....	4153
FDFTEC3001A Participate in a HACCP team	4161
FDFTEC3002A Implement the pest prevention program.....	4170
FDFTEC3003A Apply raw materials, ingredient and process knowledge to production problems	4179
FDFTEC4001A Determine handling processes for perishable food items	4188
FDFTEC4002A Manage controlled atmosphere storage.....	4196
FDFTEC4003A Control food contamination and spoilage	4206
FDFTEC4004A Apply basic process engineering principles to food processing.....	4215
FDFTEC4005A Apply an understanding of food additives	4226
FDFTEC4006A Apply an understanding of legal requirements of food production.....	4233
FDFTEC4007A Describe and analyse data using mathematical principles	4241
FDFTEC4008A Apply principles of food packaging	4248
FDFTEC4009A Identify the physical and chemical properties of materials, food and related products	4257
FDFTEC4010A Manage water treatment processes.....	4266
FDFTEC4011A Participate in product recalls	4276
FDFTEC5001A Manage and evaluate new product trials	4284
FDFTEC5002A Manage utilities and energy for a production process	4294
FDFWGG2001A Bench graft vines	4302
FDFWGG2002A Carry out potting operations.....	4309
FDFWGG2003A Hand prune vines	4318
FDFWGG2004A Undertake irrigation systems maintenance activities	4325
FDFWGG2005A Maintain callusing environment	4333
FDFWGG2006A Obtain and process rootlings.....	4343
FDFWGG2007A Tend containerised nursery plants	4353
FDFWGG2008A Train vines	4362

FDFWGG2009A Operate specialised canopy management equipment	4369
FDFWGG2010A Field graft vines	4379
FDFWGG2011A Install irrigation components	4386
FDFWGG2012A Identify and treat nursery plant disorders.....	4393
FDFWGG2013A Deliver injection requirements.....	4402
FDFWGG2014A Operate the irrigation system.....	4411
FDFWGG2015A Support mechanical harvesting operations.....	4421
FDFWGG2016A Install and maintain vine trellis	4430
FDFWGG2017A Recognise disorders and identify pests and diseases	4438
FDFWGG2018A Operate vineyard equipment.....	4447
FDFWGG2019A Perform vertebrate pest control activities.....	4455
FDFWGG2020A Carry out hot water treatment.....	4464
FDFWGG2021A Operate nursery cold storage facilities	4473
FDFWGG2022A Take and process vine cuttings.....	4481
FDFWGG2023A Carry out basic canopy maintenance	4491
FDFWGG2024A Pick grapes by hand	4499
FDFWGG2025A Plant vines by hand	4506
FDFWGG3001A Apply chemicals and biological agents	4513
FDFWGG3002A Coordinate canopy management activities	4523
FDFWGG3003A Coordinate crop harvesting activities.....	4533
FDFWGG3004A Coordinate nursery activities	4543
FDFWGG3005A Perform field nursery activities.....	4551
FDFWGG3006A Coordinate hand pruning activities	4558
FDFWGG3007A Implement an irrigation schedule	4566
FDFWGG3008A Operate a mechanical harvester	4575
FDFWGG3009A Monitor and maintain nursery plants	4585
FDFWGG3010A Implement a soil management program	4594
FDFWGG3011A Perform shed nursery activities	4603
FDFWGG3012A Monitor and control vine disorders and damage	4611
FDFWGG3013A Operate spreading and seeding equipment.....	4619
FDFWIN1001A Identify key operations in wine production	4629
FDFWIN1002A Identify viticulture processes	4636
FDFWIN2001A Perform effectively in a wine industry workplace.....	4642
FDFWIN2002A Identify and control risks in own work	4651
AHCARB205A Operate and maintain chainsaws.....	4658
AHCBAC101A Support agricultural crop work.....	4665
AHCBAC204A Prepare grain storages.....	4672
AHCBUS405A Participate in an e-business supply chain.....	4679
AHCCHM101A Follow basic chemical safety rules.....	4685
AHCCHM201A Apply chemicals under supervision	4691
AHCCHM303A Prepare and apply chemicals.....	4698
AHCCHM304A Transport, handle and store chemicals.....	4705
AHCINF204A Fabricate and repair metal or plastic structures	4711
AHCMOM101A Assist with routine maintenance of machinery and equipment.....	4718
AHCMOM202A Operate tractors.....	4724
AHCMOM203A Operate basic machinery and equipment	4730
AHCMOM204A Undertake operational maintenance of machinery	4736
AHCMOM207A Conduct front-end loader operations.....	4742
AHCMOM301A Coordinate machinery and equipment maintenance and repair	4748
AHCMOM302A Perform machinery maintenance	4754
AHCMOM304A Operate machinery and equipment.....	4760
AHCMOM305A Operate specialised machinery and equipment	4766
AHCPCM301A Implement a plant nutrition program	4772

AHCPGD301A Implement a plant establishment program	4779
AHCPTH401A Assess olive oil for style and quality	4786
AHCSOL201A Determine basic properties of soil and/or growing media	4792
AHCSOL401A Sample soils and interpret results	4798
AHCWRK305A Coordinate work site activities	4804
AHCWRK308A Handle bulk materials in storage area.....	4810
BSBCOM502B Evaluate and review compliance.....	4818
BSBCOM503B Develop processes for the management of breaches in compliance requirements	4831
BSBCUS201B Deliver a service to customers.....	4842
BSBCUS301B Deliver and monitor a service to customers.....	4849
BSBCUS401B Coordinate implementation of customer service strategies	4857
BSBCUS501C Manage quality customer service	4865
BSBFIM501A Manage budgets and financial plans	4872
BSBHRM402A Recruit, select and induct staff.....	4881
BSBINN301A Promote innovation in a team environment.....	4888
BSBINT303B Organise the importing and exporting of goods.....	4897
BSBITU201A Produce simple word processed documents	4907
BSBITU202A Create and use spreadsheets	4916
BSBLED401A Develop teams and individuals	4925
BSBMGT401A Show leadership in the workplace	4933
BSBMGT402A Implement operational plan	4939
BSBMGT403A Implement continuous improvement.....	4947
BSBMGT502B Manage people performance	4954
BSBMGT515A Manage operational plan.....	4961
BSBMGT516C Facilitate continuous improvement	4969
BSBMKG501B Identify and evaluate marketing opportunities	4977
BSBMKG507A Interpret Market Trends And Developments	4986
BSBMKG514A Implement and monitor marketing activities.....	4996
BSBOHS503B Assist in the design and development of OHS participative arrangements.....	5004
BSBPMG510A Manage projects	5015
BSBRES401A Analyse and present research information	5024
BSBSMB301A Investigate micro business opportunities	5033
BSBSMB401A Establish legal and risk management requirements of small business ...	5041
BSBSMB402A Plan small business finances.....	5050
BSBSMB403A Market the small business	5058
BSBSMB404A Undertake small business planning	5066
BSBSMB405B Monitor and manage small business operations.....	5077
BSBSMB406A Manage small business finances.....	5084
BSBSMB407A Manage a small team	5092
BSBWOR204A Use business technology	5101
BSBWOR401A Establish effective workplace relationships.....	5109
BSBWOR402A Promote team effectiveness	5118
BSBWOR403A Manage stress in the workplace.....	5126
BSBWOR404B Develop work priorities	5136
BSBWOR502B Ensure team effectiveness.....	5144
BSBWRT301A Write simple documents	5152
BSBWRT401A Write complex documents	5159
CPCCDO3011A Perform dogging.....	5167
CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry	5178
CPCCRI3012A Perform basic rigging	5193
CPCCSC2002A Erect and dismantle basic scaffolding	5204

HLTFA201B Provide basic emergency life support	5216
HLTFA301C Apply first aid	5224
LMTGN3007B Monitor and operate trade waste.....	5237
MEM09002B Interpret technical drawing.....	5244
MEM13003B Work safely with industrial chemicals and materials	5251
MEM15001B Perform basic statistical quality control	5259
MEM18001C Use hand tools.....	5266
MEM18002B Use power tools/hand held operations	5273
MEM30011A Set up basic pneumatic circuits.....	5280
MSACMT270A Use sustainable energy practices.....	5286
MSACMT671A Develop and manage sustainable environmental practices	5293
MSAENV272B Participate in environmentally sustainable work practices	5302
MSAENV472B Implement and monitor environmentally sustainable work practices... 	5311
MSAPMOHS216A Operate breathing apparatus	5321
MSAPMOHS217A Gas test atmospheres	5327
MSAPMOPS400A Optimise process/plant area	5333
MSAPMOPS401A Trial new process or product.....	5342
MSAPMOPS404A Co-ordinate maintenance.....	5350
MSAPMOPS405A Identify problems in fluid power system	5358
MSAPMOPS406A Identify problems in electronic control systems	5366
MSAPMPER200C Work in accordance with an issued permit.....	5374
MSAPMPER201A Monitor and control work permits	5387
MSAPMPER205C Enter confined space	5396
MSAPMPER300C Issue work permits	5409
MSAPMPER400A Coordinate permit process	5422
MSAPMSUP303A Identify equipment faults	5430
MSAPMSUP310A Contribute to the development of plant documentation	5438
MSAPMSUP330A Develop and adjust a production schedule	5444
MSAPMSUP390A Use structured problem solving tools.....	5450
MSL912001A Work within a laboratory/field workplace (induction)	5456
MSL922001A Record and present data	5467
MSL933001A Maintain the laboratory/field workplace fit for purpose	5478
MSL943002A Participate in laboratory/field workplace safety.....	5493
MSL952001A Collect routine site samples	5507
MSL952002A Handle and transport samples or equipment.....	5520
MSL972001A Conduct routine site measurements.....	5533
MSL973001A Perform basic tests.....	5545
MSL973004A Perform aseptic techniques.....	5557
MSL973007A Perform microscopic examination	5570
MSL974003A Perform chemical tests and procedures.....	5584
MSL974004A Perform food tests.....	5599
MSL974006A Perform biological procedures	5614
MSL975005A Conduct sensory analysis	5629
MSL975020A Apply routine spectrometric techniques.....	5639
MSL975021A Apply routine electrometric techniques.....	5654
MSL975022A Perform food analyses	5669
MSS014003A Optimise sustainability of a process or plant area	5685
MSS014004A Develop team strategies for more sustainable use of resources	5695
MSS015005A Develop required sustainability reports.....	5703
MSS024003A Apply an understanding of environmental principles to a site	5709
MSS402001A Apply competitive systems and practices.....	5721
MSS402002A Sustain process improvements.....	5728
MSS402010A Manage the impact of change on own work	5736

MSS402021A Apply Just in Time procedures.....	5744
MSS402030A Apply cost factors to work practices	5751
MSS402031A Interpret product costs in terms of customer requirements	5757
MSS402040A Apply 5S procedures.....	5764
MSS402050A Monitor process capability	5772
MSS402051A Apply quality standards	5779
MSS402060A Use planning software systems in operations	5788
MSS402061A Use SCADA systems in operations	5796
MSS402080A Undertake root cause analysis.....	5803
MSS402081A Contribute to the application of a proactive maintenance strategy	5811
MSS403001A Implement competitive systems and practices.....	5818
MSS403002A Ensure process improvements are sustained.....	5827
MSS403005A Facilitate use of a Balanced Scorecard for performance improvement	5836
MSS403010A Facilitate change in an organisation implementing competitive systems and practices	5844
MSS403011A Facilitate implementation of competitive systems and practices	5853
MSS403013A Lead team culture improvement.....	5861
MSS403021A Facilitate a Just in Time system.....	5869
MSS403023A Monitor a levelled pull system of operations	5878
MSS403030A Improve cost factors in work practices	5887
MSS403032A Analyse manual handling processes	5894
MSS403040A Facilitate and improve implementation of 5S.....	5902
MSS403041A Facilitate breakthrough improvements.....	5912
MSS403051A Mistake proof an operational process	5921
MSS404050A Undertake process capability improvements.....	5929
MSS404052A Apply statistics to operational processes.....	5937
MSS404053A Use six sigma techniques.....	5946
MSS404060A Facilitate the use of planning software systems in a work area or team ...	5954
MSS404061A Facilitate the use of SCADA systems in a team or work area.....	5962
MSS404081A Undertake proactive maintenance analyses.....	5969
MSS404082A Assist in implementing a proactive maintenance strategy	5977
MSS404083A Support proactive maintenance	5986
MSS405001A Develop competitive systems and practices for an organisation.....	5995
MSS405002A Analyse and map a value stream	6003
MSS405005A Manage competitive systems and practices responding to individual and unique customer orders.....	6011
MSS405006A Develop a Balanced Scorecard.....	6020
MSS405007A Introduce competitive systems and practices to a small or medium enterprise	6028
MSS405010A Manage relationships with non-customer external organisations	6036
MSS405011A Manage people relationships.....	6044
MSS405012A Manage workplace learning	6052
MSS405013A Facilitate holistic culture improvement in an organisation.....	6060
MSS405014A Develop a communications strategy to support operations.....	6068
MSS405020A Develop quick changeover procedures.....	6076
MSS405022A Design a process layout.....	6085
MSS405023A Develop a levelled pull system for operations and processes	6093
MSS405030A Optimise cost of a product or service	6101
MSS405031A Undertake value analysis of product or process costs in terms of customer requirements	6109
MSS405032A Analyse cost implications of maintenance strategy	6117
MSS405040A Manage 5S system in an organisation	6126
MSS405050A Determine and improve process capability.....	6135

MSS405060A	Develop the application of enterprise control systems in an organisation	6143
MSS405061A	Determine and establish information collection requirements and processes	6151
MSS405062A	Develop a documentation control strategy for an organisation	6158
MSS405070A	Develop and manage sustainable energy practices	6166
MSS405075A	Facilitate the development of a new product	6174
MSS405081A	Develop a proactive maintenance strategy	6183
MSS405082A	Adapt a proactive maintenance strategy to the process operations sector	6191
MSS405083A	Adapt a proactive maintenance strategy for a seasonal or cyclical business	6200
MTMCOR202A	Apply hygiene and sanitation practices	6209
MTMCOR404A	Facilitate hygiene and sanitation performance	6217
MTMP402B	Implement a Meat Hygiene Assessment program	6225
MTMP404B	Apply meat science	6234
MTMP2006B	Apply animal welfare and handling requirements	6244
MTMP2197C	Clean after operations - boning room	6252
MTMP2006A	Apply animal welfare and handling requirements	6260
MTMP2197B	Clean after operations - boning room	6268
MTMPS411C	Monitor meat preservation process	6276
MTMPS412C	Monitor and overview the production of processed meats and smallgoods	6284
MTMPS414B	Monitor and overview the production of Uncooked Comminuted Fermented Meat (UCFM)	6293
MTMPS5603C	Develop, manage and maintain quality systems	6305
MTMPSR201C	Vacuum pack product	6320
MTMPSR203A	Sharpen knives	6328
MTMPSR407A	Assess and evaluate meat industry requirements and processes	6336
MTMPSR408A	Specify beef product using AUS-MEAT language	6348
MTMPSR409A	Specify sheep product using AUS-MEAT language	6356
MTMPSR410A	Specify pork product using AUS-MEAT language	6364
MTMPSR5601C	Design and manage the food safety system	6372
MTMR308C	Prepare and produce value-added products	6385
PMASUP420B	Minimise environmental impact of process	6395
PMBPROD211B	Operate blow moulding equipment	6403
PMBPROD270B	Operate injection blow moulding equipment	6411
PMBTECH406A	Diagnose production equipment problems	6418
RIICBM305A	Install pre-cast concrete bridge decks	6426
RIIHAN305A	Operate a gantry or overhead crane	6435
RIIMPO319A	Conduct backhoe/loader operations	6443
RIIRIS201B	Conduct local risk control	6455
SFIPROC504C	Design and manage a product recall	6463
SIRRFSA001A	Apply retail food safety practices	6474
SIRRMER004A	Prepare and display bakery products	6485
SIRXCCS201	Apply point-of-sale handling procedures	6498
SIRXCCS202	Interact with customers	6506
SIRXCCS304	Coordinate interaction with customers	6515
SIRXFIN002A	Perform retail finance duties	6522
SIRXFIN201	Balance and secure point-of-sale terminal	6530
SIRXICT001A	Operate retail technology	6535
SIRXICT303	Operate retail information technology systems	6541
SIRXINV001A	Perform stock control procedures	6548
SIRXINV002A	Maintain and order stock	6554
SIRXMER201	Merchandise products	6563
SIRXMPR006A	Manage promotional activities	6571
SIRXRSK001A	Minimise theft	6578
SIRXRSK002A	Maintain store security	6586

SIRXSLS002A Advise on products and services.....	6593
SIRXSLS201 Sell products and services	6599
SITHCCC001B Organise and prepare food.....	6608
SITHCCC002A Present food	6619
SITHCCC005A Use basic methods of cookery	6625
SITHCCC014A Prepare pastries, cakes and yeast goods	6633
SITHCCC022A Prepare chocolate and chocolate confectionery.....	6641
SITHFAB003A Serve food and beverage to customers	6649
SITHFAB004A Provide food and beverage service	6658
SITHFAB005A Provide table service of alcoholic beverages.....	6669
SITHFAB009A Provide responsible service of alcohol	6677
SITHFAB011A Develop and update food and beverage knowledge.....	6689
SITHFAB012B Prepare and serve espresso coffee	6696
SITHFAB016A Plan and monitor espresso coffee service	6708
SITHFAB222A Conduct a product tasting for alcoholic beverages.....	6717
SITHFAB325A Provide specialised advice on Australian wines	6726
SITHFAB326A Provide specialised advice on imported wines	6737
SITHPAT001A Prepare and produce pastries.....	6746
SITHPAT002A Prepare and produce cakes.....	6755
SITHPAT003A Prepare and produce yeast goods.....	6763
SITHPAT004A Prepare bakery products for patisseries.....	6771
SITHPAT007A Prepare and display petits fours.....	6780
SITHPAT008A Prepare and model marzipan	6788
SITHPAT010A Prepare and display sugar work.....	6795
SITTIND001B Develop and update tourism industry knowledge.....	6804
SITXCCS001B Provide visitor information	6816
SITXCOM001A Work with colleagues and customers	6823
SITXFIN001A Process financial transactions	6833
SITXOHS002A Follow workplace hygiene procedures.....	6840
TAEASS401B Plan assessment activities and processes.....	6850
TAEASS402B Assess competence.....	6859
TAEASS403B Participate in assessment validation.....	6868
TAEASS502B Design and develop assessment tools.....	6874
TAEDEL301A Provide work skill instruction.....	6883
TAEDEL404A Mentor in the workplace	6893
TAEDES401A Design and develop learning programs	6900
TLIA2009A Complete and check import/export documentation	6907
TLIA2011A Package goods	6916
TLIA2012A Pick and process orders	6924
TLIA2014A Use product knowledge to complete work operations.....	6932
TLIA2021A Despatch stock	6940
TLIA2022A Participate in stocktakes	6948
TLIA3010A Coordinate goods to bond premises	6956
TLIA3015A Complete receival/despatch documentation.....	6963
TLIA3016A Use inventory systems to organise stock control.....	6971
TLIA3017A Identify products and store to specifications	6979
TLIA3018A Organise despatch operations.....	6988
TLIA3019A Organise receival operations	6996
TLIA3024A Organise warehouse records operations.....	7004
TLIA3026A Monitor storage facilities	7012
TLIA3038A Control and order stock.....	7021
TLIA3039A Receive and store stock	7029
TLIA4025A Regulate temperature controlled stock.....	7037

TLIB2009A Check conveyor operational status	7045
TLIC2041A Operate self-propelled equipment on track	7054
TLID1001A Shift materials safely using manual handling methods.....	7062
TLID1002A Shift a load using manually-operated equipment.....	7070
TLID2003A Handle dangerous goods/hazardous substances	7079
TLID2004A Load and unload goods/cargo.....	7088
TLID2010A Operate a forklift.....	7096
TLID2022A Conduct weighbridge operations	7104
TLID3011A Conduct specialised forklift operations	7113
TLID3035A Operate a boom type elevating work platform	7122
TLID3036A Lift and move load using a mobile crane.....	7132
TLIJ2003A Apply grain protection measures	7141
TLIJ2004A Implement grain monitoring measures	7149
TLIK2010A Use infotechnology devices in the workplace	7157
TLILIC2001A Licence to operate a forklift truck	7165
TLILIC2014A Licence to drive light rigid vehicle.....	7174
TLILIC2015A Licence to drive medium rigid vehicle.....	7183
TLILIC2016A Licence to drive heavy rigid vehicle.....	7192
TLILIC3006A Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity).....	7201
TLILIC3017A Licence to drive heavy combination vehicle.....	7213
TLIP2029A Prepare and process financial documents	7222

Modification History

Version Modification History

Version	Release Date	Comments
4		<p>Addition of new Qualification:</p> <ul style="list-style-type: none"> • FDF41012 Certificate IV in Flour Milling <p>Addition of six new Units of Competency:</p> <ul style="list-style-type: none"> • FDFGR3003A Lead flour milling shift operations • FDFGR3004A Control mill processes and performance • FDFGR4001A Control power and automation for milling processes • FDFGR4002A Supervise testing processes for wheat and flour • FDFGR4003A Manage mill logistics and support services • FDFGR4004A Supervise dust control procedures in a grain processing enterprise • Replacement of 17 superseded imported Units from MSA07 to MSS11 deemed 'not equivalent' by host ISC • <u>ISC Upgrade</u> • Addition of new Units to FDF30111 Certificate III in Food Processing to support flour milling outcomes: <ul style="list-style-type: none"> • FDFGR3003A Lead flour milling shift operations • FDFGR3004A Control mill processes and performance <p>Replacement of superseded imported Units from MSA07 to MSS11 deemed 'equivalent' by host ISC</p>

Version	Release Date	Comments
3	1 May 2012	Addition of a new Sugar Milling sector. Inclusion of new Qualifications and Units of Competency in sugar milling, and new Units of Competency in grains and operations. Updates to existing Qualifications to include new grains and operations units. Inclusion of new Skill Sets. Typographical corrections and edits for clarity in existing Qualifications and Skill Sets. Update of previously imported SUG02 Units of Competency to new native sugar milling Units.
2	4 November 2011	Inclusion of new qualifications and units of competency in wine, baking and food science and technology, and updates to existing qualifications and units of competency. Inclusion of new Skill Sets.
1	31 January 2011	Primary release of FDF10.

Imprint

FDF10 Food Processing

Copyright Statement

© 2012 Commonwealth of Australia.



With the exception of the Commonwealth Coat of Arms, the Department's logo, any material protected by a trade mark and where otherwise noted, all material presented in this document is provided under a Creative Commons Attribution-Non Derivative Works 3.0 Australia licence.

The details of the relevant licence conditions are available on the Creative Commons website (www.creativecommons.org.au) as is the full legal code. The document must be attributed as the FDF10 Food Processing Training Package Version 4.

Disclaimer

This work is the result of wide consultations with Australian industry participants. It is a collaborative view and does not necessarily represent the view of DEEWR or any specific body. For the sake of brevity it may omit factors which could be pertinent in particular cases.

While care has been taken in the preparation of this Training Package, DEEWR and the original developer do not warrant that any licensing or registration requirements specified here are either complete or up-to-date for your State or Territory. DEEWR and the original developer do not accept any liability for any damage or loss (including indirect and consequential loss) incurred by any person as a result of relying on the information contained in this Training Package.

The Commonwealth, through the Department of Education, Employment and Workplace Relations, does not accept any liability to any person for the information or advice (or the use of such information or advice) which is provided in this material or incorporated into it by reference. The information is provided on the basis that all persons accessing this material undertake responsibility for assessing the relevance and accuracy of its content. No liability is accepted for any information or services which may appear in any other format. No responsibility is taken for any information or services which may appear on any linked websites.

Published by: AgriFood Skills Australia
First published: 31 January 2011
ISBN:
Printed by:
Print Version Number: 4
Release Date:
Review Date: 31 October 2013

Preliminary Information

Important Note to Users

Training Packages are not static documents; they are amended periodically to reflect the latest industry practices and are version controlled. It is essential that the latest version is always used.

Check the version number before commencing training or assessment

This Training Package is Version 4 - check whether this is the latest version by going to the National Training Information Service (www.ntis.gov.au) and locating information about the Training Package. Alternatively, contact AgriFood Skills Australia at <http://www.agrifoodskills.net.au> to confirm the latest version number.

Explanation of version number conventions

The primary release Training Package is Version 1. When changes are made to a Training Package, sometimes the version number is changed and sometimes it is not, depending on the extent of the change. When a Training Package is reviewed it is considered to be a new Training Package for the purposes of version control, and is Version 1. Do not confuse the version number with the Training Packages national code (which remains the same during its period of endorsement).

Full List of AQF Qualifications in FDF10v4 Training Package

Code	Title
FDF10111	Certificate I in Food Processing
FDF10210	Certificate I in Pharmaceutical Manufacturing
FDF11012	Certificate I in Sugar Milling Industry Operations
FDF20111	Certificate II in Food Processing
FDF20211	Certificate II in Pharmaceutical Manufacturing
FDF20411	Certificate II in Wine Industry Operations
FDF20510	Certificate II in Retail Baking Assistance
FDF20911	Certificate II in Food Processing (Sales)
FDF21012	Certificate II in Sugar Milling Industry Operations
FDF30111	Certificate III in Food Processing
FDF30210	Certificate III in Pharmaceutical Manufacturing
FDF30310	Certificate III in Plant Baking

Code	Title
FDF30411	Certificate III in Wine Industry Operations
FDF30510	Certificate III in Retail Baking (Cake and Pastry)
FDF30610	Certificate III in Retail Baking (Bread)
FDF30710	Certificate III in Retail Baking (Combined)
FDF30910	Certificate III in Food Processing (Sales)
FDF31012	Certificate III in Sugar Milling Industry Operations
FDF40110	Certificate IV in Food Processing
FDF40210	Certificate IV in Pharmaceutical Manufacturing
FDF40311	Certificate IV in Food Science and Technology
FDF40811	Certificate IV in Advanced Baking
FDF41012	Certificate IV in Flour Milling
FDF50110	Diploma of Food Processing
FDF50210	Diploma of Pharmaceutical Manufacturing
FDF50311	Diploma of Food Science and Technology

Full List of Units of Competency including Imported Units

FDF10v4 Units of Competency and their Pre-Requisite Requirements

Code	Title	Pre-Requisite (Code/s)
FDFAU4001A	Assess compliance with food safety programs	
FDFAU4002A	Communicate and negotiate to conduct food safety audits	
FDFAU4003A	Conduct food safety audits	
FDFAU4004A	Identify, evaluate and control food safety hazards	
FDFAU4005A	Audit bivalve mollusc growing and harvesting processes	FDFAU4002A FDFAU4003A FDFAU4004A
FDFAU4006A	Audit a cook chill process	FDFAU4002A FDFAU4003A FDFAU4004A
FDFAU4007B	Audit a heat treatment process	FDFAU4002A FDFAU4003A FDFAU4004A
FDFAU4008A	Audit manufacturing of ready-to-eat meat products	FDFAU4002A FDFAU4003A FDFAU4004A
FDFBK2001A	Operate a cooling and slicing process	
FDFBK2002A	Operate a pastry forming and filling process	
FDFBK2003A	Manufacture rye crisp breads	
FDFBK2004A	Manufacture wafer products	
FDFBK2005A	Operate a doughnut making process	
FDFBK2006A	Operate a griddle production process	
FDFBK2007A	Operate a pastry production process	

Code	Title	Pre-Requisite (Code/s)
FDFBP2001A	Operate the bottle supply process	
FDFBP2002A	Operate the carton erection process	
FDFBP2003A	Operate the carton packing process	
FDFBP2004A	Operate the bottle sealing process	
FDFBP2005A	Operate the electronic coding process	
FDFBP2006A	Operate traditional sparkling wine processes	
FDFBP2007A	Operate the tirage and transfer process	
FDFBP2008A	Perform packaging equipment changeover	
FDFBP2009A	Operate the bottle capsuling process	
FDFBP2010A	Operate manual bottling and packaging processes	
FDFBP2011A	Operate the palletising process	
FDFBP3001A	Operate the bottle filling process	
FDFBP3002A	Operate the labelling process	
FDFBP3003A	Operate the softpack filling process	
FDFBV2001A	Operate a deaeration, mixing and carbonation process	
FDFBV2002A	Manufacture coffee (roast and ground)	
FDFBV2003A	Operate an ice manufacturing process	
FDFCD2001A	Conduct winery and/or site tours	FDFCD2002A SIRXCCS202
FDFCD2002A	Promote wine tourism information	SIRXCCS202
FDFCD2003A	Evaluate wines (standard)	
FDFCD2004A	Perform cellar door stock control procedure	FDFCD2003A
FDFCD2005A	Sell cellar door products and services	SIRXCCS202 FDFCD2003A

Code	Title	Pre-Requisite (Code/s)
		SITHFAB009A
FDFCD2006A	Conduct a standard product tasting	SIRXCCS202 FDFCD2003A SITHFAB009A
FDFCD3001A	Evaluate wines (advanced)	FDFCD2003A
FDFCD3002A	Conduct a specialised product tasting	FDFCD2002A SIRXCCS202 FDFCD2006A FDFCD2003A SITHFAB009A
FDFCD3003A	Coordinate winery hospitality activities	SIRXCCS202
FDFCEL2001A	Perform oak handling activities	FDFCEL2018A FDFCEL2019A
FDFCEL2002A	Perform fermentation operations	FDFCEL2017A
FDFCEL2003A	Operate the ion exchange process	FDFCEL2019A
FDFCEL2004A	Perform single column lees stripping (continuous still brandy) operations	FDFOP2004A FDFOP2013A MSL973001A
FDFCEL2005A	Operate the pressing process	FDFCEL2019A
FDFCEL2006A	Operate clarification by separation (centrifugation) process	FDFCEL2018A FDFCEL2019A
FDFCEL2007A	Prepare and monitor wine cultures	FDFCEL2019A
FDFCEL2008A	Perform dual column distillation (continuous still brandy) operations	FDFCEL2004A FDFCEL2012A FDFCEL2019A
FDFCEL2009A	Perform first distillation (pot still brandy) operations	FDFOP2013A MSL973001A

Code	Title	Pre-Requisite (Code/s)
FDFCEL2010A	Operate the fine filtration process	
FDFCEL2011A	Perform heat exchange operations	
FDFCEL2012A	Handle spirits	FDFCEL2019A
FDFCEL2013A	Operate the pressure leaf filtration process	FDFCEL2018A FDFCEL2019A
FDFCEL2014A	Operate the rotary vacuum filtration process	FDFCEL2018A FDFCEL2019A
FDFCEL2015A	Perform must draining operations	FDFCEL2019A
FDFCEL2016A	Operate the crushing process	FDFCEL2019A
FDFCEL2017A	Prepare and make additions and finings	
FDFCEL2018A	Carry out inert gas handling operations	
FDFCEL2019A	Carry out transfer operations	
FDFCEL2020A	Prepare and wax tanks	
FDFCEL3001A	Perform second distillation (pot still brandy) operations	FDFOP2013A MSL973001A
FDFCEL3002A	Operate the continuous clarification by separation (flotation) process	FDFCEL2018A FDFCEL2019A
FDFCEL3003A	Operate the concentration process	FDFCEL2019A
FDFCEL3004A	Perform de-aromatising, de-alcoholising or de-sulphuring operations	FDFCEL2018A FDFCEL2019A
FDFCEL3005A	Perform rectification (continuous still) operations	FDFCEL2004A FDFOP2004A FDFOP2013A MSL973001A FDFCEL2012A FDFCEL2019A

Code	Title	Pre-Requisite (Code/s)
FDFCH3001A	Coordinate cheese making operations	
FDFCH3002A	Carry out processes for a range of artisan cheeses	
FDFCH4001A	Carry out sampling and interpret tests for cheese production	MSL973001A
FDFCH4002A	Produce acid-coagulated soft cheeses	
FDFCH4003A	Produce a range of rennet-coagulated cheeses	
FDFCH4004A	Produce acid/heat-coagulated cheeses	
FDFCON2001A	Examine raw ingredients used in confectionery	
FDFCON2002A	Operate a boiled confectionery process	
FDFCON2003A	Operate a chocolate conching process	
FDFCON2004A	Operate a chocolate depositing or moulding process	
FDFCON2005A	Operate a confectionery depositing process	
FDFCON2006A	Operate a granulation and compression process	
FDFCON2007A	Operate a panning process	
FDFCON2008A	Operate a chocolate refining process	
FDFCON2009A	Operate a starch moulding process	
FDFDP2001A	Operate a butter churning process	
FDFDP2002A	Operate a butter oil process	FDFDP2001A OR FDFOP2043A
FDFDP2003A	Operate a curd production and cutting process	
FDFDP2004A	Operate a cooling and hardening process	
FDFDP2005A	Operate a cheese pressing and moulding process	
FDFDP2006A	Operate a fermentation process	
FDFFS1001A	Follow work procedures to maintain food safety	

Code	Title	Pre-Requisite (Code/s)
FDFFS2001A	Implement the food safety program and procedures	
FDFFS3001A	Monitor the implementation of quality and food safety programs	FDFFS2001A
FDFFS4001A	Supervise and maintain a food safety plan	
FDFFS4002A	Supervise and verify supporting programs for food safety	
FDFFS5001A	Develop a HACCP-based food safety plan	FDFFS4001A
FDFFST4001A	Apply food processing technologies	
FDFFST4002A	Monitor the development and implementation of a food QA system	
FDFFST4003A	Apply digital technology in food processing	
FDFFST4004A	Perform microbiological procedures in the food industry	
FDFFST4005A	Document processes and procedures for a food product	
FDFFST4006A	Apply food preservation technologies	
FDFFST4007A	Establish operational requirements for a food processing enterprise	
FDFFST4008A	Preserve food in cans or sealed containers	
FDFFST4009A	Label foods according to legislative requirements	
FDFFST4010A	Apply sensory analysis in food processing	
FDFFST4011A	Apply the principles of nutrition to food processing	
FDFFST4012A	Apply water management principles to the food industry	
FDFFST4020A	Implement and review the processing of market milk and related products	
FDFFST4021A	Carry out sampling and testing of milk at receipt	
FDFFST4022A	Implement and review the preparation of milk for	

Code	Title	Pre-Requisite (Code/s)
	processing	
FDFST4030A	Implement and review the processing of chocolate and sugar-panned products	
FDFST4031A	Implement and review the processing of aerated confectioneries	
FDFST4032A	Implement and review the production of gums and jellies	
FDFST4033A	Implement and review the production of chocolate products	
FDFST4034A	Implement and review the processing of chocolate	
FDFST4035A	Implement and review the processing of high and low boil confectionery	
FDFST4036A	Implement and review the processing of confectionery products	
FDFST4040A	Identify and implement product safety and quality for chilled or frozen poultry product manufacturing	
FDFST4041A	Identify and implement product safety and quality for cooked poultry product manufacturing	
FDFST4042A	Identify and implement product safety and quality for egg based product manufacturing	
FDFST4050A	Identify and implement product safety and quality for processing of fruit, vegetables and other produce	
FDFST4051A	Identify and implement product safety and quality processes for fish and seafood products	
FDFST4052A	Implement and review the manufacturing and processing of edible fats and oils	
FDFST4053A	Implement and review manufacturing, packaging and testing of beverage products	
FDFST4054A	Identify and implement product safety and quality for manufacturing of cereal products	

Code	Title	Pre-Requisite (Code/s)
FDFST5001A	Monitor refrigeration and air conditioning systems in food processing	
FDFST5002A	Identify and implement required process control for a food processing operation	
FDFST5003A	Construct a process control chart for a food processing operation	
FDFST5004A	Specify and monitor the nutritional value of processed foods	
FDFST5005A	Identify the biochemical properties of food	
FDFST5006A	Apply food microbiological techniques and analysis	FDFST4004A
FDFST5007A	Evaluate sampling plans in relation to food industry standards	
FDFST5008A	Develop a new food product	
FDFST5023A	Implement and review the production of milk fat products	
FDFST5024A	Implement and review the production of fermented dairy products and dairy desserts	
FDFST5025A	Implement and review the production of concentrated and dried dairy products	
FDFST5026A	Implement and review the production of ice creams and frozen dairy products	
FDFST5027A	Implement and review the production of milk and related products by the membrane system	
FDFST5030A	Develop, manage and maintain quality systems for food processing	
FDFV2001A	Apply hydro-cooling process to fresh produce	
FDFV3001A	Conduct chemical wash for fresh produce	
FDFV3002A	Program fresh produce grading equipment	
FDFGPS2001A	Operate a bleaching process	

Code	Title	Pre-Requisite (Code/s)
FDFGPS2002A	Operate a complecting process	
FDFGPS2003A	Operate a deodorising process	
FDFGPS2004A	Operate a flake preparation process	
FDFGPS2005A	Operate a fractionation process	
FDFGPS2006A	Operate a hydrogenation process	
FDFGPS2007A	Operate an interesterification process	
FDFGPS2008A	Operate a neutralisation process	
FDFGPS2009A	Operate a soap splitting process	
FDFGPS2010A	Operate a winterisation process	
FDFGPS2011A	Operate a creamed honey manufacture process	
FDFGR2001A	Operate a liquid, mash or block stockfeed process	
FDFGR2002A	Understand mill operations and technologies	
FDFGR2003A	Operate a grain conditioning process	
FDFGR2004A	Operate a grain cleaning process	
FDFGR2005A	Operate a purification process	
FDFGR2006A	Operate a scalping and grading process	
FDFGR2007A	Operate a scratch and sizing process	
FDFGR2008A	Operate a break roll process	
FDFGR2009A	Operate a pelleting process	
FDFGR2010A	Handle grain in a storage area	
FDFGR2011A	Receive grain for malting	FDFGR2010A
FDFGR2012A	Prepare malted grain	FDFGR2010A
FDFGR2013A	Blend and dispatch malt	

Code	Title	Pre-Requisite (Code/s)
FDFGR3001A	Work with micronutrients or additions in stockfeed manufacturing processes	
FDFGR3002A	Demonstrate knowledge of animal nutrition principles	
FDFGR3003A	Lead flour milling shift operations	
FDFGR3004A	Control mill processes and performance	
FDFGR4001A	Control power and automation for milling processes	
FDFGR4002A	Supervise testing processes for wheat and flour	
FDFGR4003A	Manage mill logistics and support services	
FDFGR4004A	Supervise dust control procedures in a grain processing enterprise	
FDFLAB2001A	Perform basic analytical tests	FDFLAB2011A
FDFLAB2002A	Perform basic microbiological tests	FDFLAB2012A FDFLAB2011A
FDFLAB2003A	Perform basic packaging tests and inspections	FDFLAB2011A
FDFLAB2004A	Prepare laboratory solutions and stains	FDFLAB2011A
FDFLAB2005A	Prepare and pour culture media	FDFLAB2012A FDFLAB2011A
FDFLAB2006A	Record laboratory data	
FDFLAB2007A	Standardise laboratory solutions	FDFLAB2011A
FDFLAB2008A	Analyse laboratory data	FDFLAB2006A
FDFLAB2009A	Perform packaging quality control procedures	FDFLAB2011A
FDFLAB2010A	Prepare product or show samples	FDFLAB2011A
FDFLAB2011A	Use basic laboratory equipment	
FDFLAB2012A	Maintain aseptic environment	FDFLAB2011A
FDFLAB3001A	Use computer technology for laboratory applications	FDFLAB2008A

Code	Title	Pre-Requisite (Code/s)
		FDFLAB2006A
FDFLAB3002A	Perform non-routine or specialised tests	FDFLAB2006A FDFLAB2001A FDFLAB2002A FDFLAB2009A FDFLAB2011A FDFLAB2012A
FDFLAB3003A	Perform routine troubleshooting procedures	FDFLAB2006A FDFLAB2001A FDFLAB2002A FDFLAB2009A FDFLAB2011A FDFLAB2012A
FDFLAB3004A	Check and maintain readiness of wine testing equipment	FDFLAB2006A FDFLAB2001A FDFLAB2002A FDFLAB2009A FDFLAB2011A FDFLAB2012A
FDFLAB3005A	Perform instrumental tests or procedures on wine samples	FDFLAB2006A FDFLAB2001A FDFLAB2002A FDFLAB2009A FDFLAB2011A FDFLAB2012A
FDFOHS1001A	Work safely	
FDFOHS2001A	Participate in OHS processes	
FDFOHS3001A	Contribute to OHS processes	
FDFOHS4001A	Identify, assess and control OHS risk in own work	

Code	Title	Pre-Requisite (Code/s)
FDFOHS4002A	Maintain OHS processes	
FDFOHS5001A	Manage OHS processes	
FDFOP1001A	Pack or unpack product manually	
FDFOP1002A	Operate automated washing equipment	
FDFOP1003A	Carry out manual handling tasks	
FDFOP1004A	Prepare basic mixes	
FDFOP1005A	Operate basic equipment	
FDFOP1006A	Monitor process operation	
FDFOP1007A	Participate effectively in a workplace environment	
FDFOP1008A	Take and record basic measurements	
FDFOP1009A	Follow work procedures to maintain quality	
FDFOP1010A	Communicate workplace information	
FDFOP2001A	Work effectively in the food processing industry	
FDFOP2002A	Inspect and sort materials and product	
FDFOP2003A	Clean equipment in place	
FDFOP2004A	Clean and sanitise equipment	
FDFOP2005A	Work in a socially diverse environment	
FDFOP2006A	Operate a bulk dry goods transfer process	
FDFOP2007A	Work in a freezer storage area	
FDFOP2008A	Operate a bulk liquid transfer process	
FDFOP2009A	Load and unload tankers	
FDFOP2010A	Work with temperature controlled stock	
FDFOP2011A	Conduct routine maintenance	

Code	Title	Pre-Requisite (Code/s)
FDFOP2012A	Maintain food safety when loading, unloading and transporting food	
FDFOP2013A	Apply sampling procedures	
FDFOP2014A	Participate in sensory analyses	
FDFOP2015A	Apply principles of statistical process control	FDFOP2061A
FDFOP2016A	Work in a food handling area for non-food handlers	
FDFOP2017A	Operate a blending, sieving and bagging process	
FDFOP2018A	Operate a case packing process	
FDFOP2019A	Fill and close product in cans	
FDFOP2020A	Operate a form, fill and seal process	
FDFOP2021A	Operate a fill and seal process	
FDFOP2022A	Operate a high speed wrapping process	
FDFOP2023A	Operate a packaging process	
FDFOP2024A	Operate a cooling, slicing and wrapping process	
FDFOP2025A	Manufacture extruded and toasted products	
FDFOP2026A	Operate a forming or shaping process	
FDFOP2027A	Dispense non-bulk ingredients	
FDFOP2028A	Operate a mixing or blending process	
FDFOP2029A	Operate a baking process	
FDFOP2030A	Operate a process control interface	
FDFOP2031A	Operate a coating application process	
FDFOP2032A	Work in a clean room environment	FDFFS2001A FDFPH2001A
FDFOP2033A	Operate a depositing process	

Code	Title	Pre-Requisite (Code/s)
FDFOP2034A	Operate an evaporation process	
FDFOP2035A	Operate an enrobing process	
FDFOP2036A	Operate an extrusion process	
FDFOP2037A	Operate a filtration process	
FDFOP2038A	Operate a grinding process	
FDFOP2039A	Operate a frying process	
FDFOP2040A	Operate a heat treatment process	
FDFOP2041A	Operate a mixing or blending and cooking process	
FDFOP2042A	Operate a drying process	
FDFOP2043A	Operate an homogenising process	
FDFOP2044A	Operate a retort process	
FDFOP2045A	Operate pumping equipment	
FDFOP2046A	Operate a production process	
FDFOP2047A	Operate a portion saw	
FDFOP2048A	Pre-process raw materials	
FDFOP2049A	Operate a reduction process	
FDFOP2050A	Operate a separation process	
FDFOP2051A	Operate a spreads production process	
FDFOP2052A	Operate a chocolate tempering process	
FDFOP2053A	Operate a washing and drying process	
FDFOP2054A	Operate a water purification process	
FDFOP2055A	Freeze dough	
FDFOP2056A	Operate a freezing process	

Code	Title	Pre-Requisite (Code/s)
FDFOP2057A	Operate a membrane process	
FDFOP2058A	Operate a holding and storage process	
FDFOP2059A	Operate a continuous freezing process	
FDFOP2060A	Operate an automated cutting process	
FDFOP2061A	Use numerical applications in the workplace	
FDFOP2062A	Apply work procedures to maintain integrity of product	
FDFOP2063A	Apply quality systems and procedures	
FDFOP2064A	Provide and apply workplace information	
FDFOP2065A	Work in confined spaces in the food and beverage industries	FDFOHS2001A
FDFOP2066A	Operate a wort production process	FDFOP2071A
FDFOP2067A	Operate a brewery fermentation process	FDFOP2071A
FDFOP2068A	Operate a beer maturation process	FDFOP2071A
FDFOP2069A	Operate a beer filtration process	FDFOP2071A
FDFOP2070A	Operate a bright beer tank process	FDFOP2071A
FDFOP2071A	Identify key stages and beer production equipment in a brewery	
FDFOP2072A	Operate a beer filling process	
FDFOP2073A	Operate a beer packaging process	
FDFOP2074A	Prepare and monitor beer yeast propagation processes	
FDFOP3001A	Control contaminants and allergens in the workplace	FDFFS2001A
FDFOP3002A	Set up a production or packaging line for operation	
FDFOP3003A	Operate interrelated processes in a production system	
FDFOP3004A	Operate interrelated processes in a packaging system	

Code	Title	Pre-Requisite (Code/s)
FDFOP3005A	Prepare food products using basic cooking methods	FDFFS2001A
FDFOP3006A	Identify cultural, religious and dietary requirements for food products	
FDFPB3001A	Operate a dough mixing process	
FDFPB3002A	Operate a final proof and baking process	
FDFPB3003A	Operate a dough make up process	
FDFPH1001A	Follow work procedures to maintain Good Manufacturing Practice	
FDFPH2001A	Apply Good Manufacturing Practice procedures	
FDFPH2002A	Operate a concentration process	
FDFPH2003A	Operate an extraction process	
FDFPH2004A	Operate a separation process using chromatography	FDFOP2032A FDFFS2001A FDFPH2001A
FDFPH2005A	Operate an aseptic fill and seal process	FDFOP2032A FDFFS2001A FDFPH2001A
FDFPH2006A	Operate an aseptic form, fill and seal process	FDFOP2032A FDFFS2001A FDFPH2001A
FDFPH2007A	Co-ordinate a label store	
FDFPH2008A	Operate a compressing process	
FDFPH2009A	Dispense pharmaceutical raw materials	
FDFPH2010A	Operate an encapsulation process	
FDFPH2011A	Operate a granulation process	
FDFPH2012A	Operate a liquid manufacturing process	

Code	Title	Pre-Requisite (Code/s)
FDFPH2013A	Operate a tablet coating process	
FDFPH2014A	Operate a terminal sterilisation process	
FDFPH3001A	Monitor and maintain Good Manufacturing Practice procedures	
FDFPH4001A	Prepare and review workplace documentation to support Good Manufacturing Practice	
FDFPH4002A	Facilitate and monitor Good Manufacturing Practice	
FDFPH4003A	Facilitate contamination control	
FDFPH4004A	Participate in change control procedures	
FDFPH4005A	Participate in validation processes	
FDFPH4006A	Respond to non-conformance	
FDFPO2001A	Operate a dicing, stripping or mincing process	
FDFPO2002A	Operate an evisceration process	
FDFPO2003A	Grade carcass	
FDFPO2004A	Harvest edible offal	
FDFPO2005A	Operate a marinade injecting process	
FDFPO2006A	Operate a washing and chilling process	
FDFPO2007A	Operate the bird receival and hanging process	
FDFPO2008A	Operate a stunning, killing and defeathering process	
FDFPO2009A	Work in an egg grading floor	
FDFPO2010A	Operate egg grading and packing floor equipment	FDFPO2009A
FDFPO3001A	Operate a chickway system	
FDFPO3002A	Debone and fillet product (manually)	
FDFPPL2001A	Participate in work teams and groups	

Code	Title	Pre-Requisite (Code/s)
FDFPPL3001A	Participate in improvement processes	
FDFPPL3002A	Report on workplace performance	
FDFPPL3003A	Support and mentor individuals and groups	
FDFPPL3004A	Lead work teams and groups	
FDFPPL3005A	Participate in an audit process	FDFOHS2001A FDFOP2063A MSAENV272B
FDFPPL3006A	Establish compliance requirements for work area	
FDFPPL4001A	Manage people in the work area	FDFPPL3003A
FDFPPL4002A	Plan and co-ordinate maintenance	
FDFPPL4003A	Schedule and manage production	
FDFPPL4004A	Optimise a work process	FDFPPL3001A
FDFPPL4005A	Establish process capability	FDFOP2015A FDFOP2061A FDFTEC4007A
FDFPPL4006A	Manage a work area within budget	
FDFPPL4007A	Manage supplier agreements and contracts	
FDFPPL4008A	Manage internal audits	FDFOHS2001A FDFOP2063A FDFPPL3005A MSAENV272B
FDFPPL5001A	Design and maintain programs to support legal compliance	FDFFS2001A FDFFS3001A FDFOHS4002A FDFTEC3001A MSAENV272B

Code	Title	Pre-Requisite (Code/s)
FDFRB1001A	Finish products	
FDFRB2001A	Form and fill pastry products	
FDFRB2002A	Prepare fillings	
FDFRB2003A	Produce meringue-based products	
FDFRB2004A	Provide production assistance for bread products	
FDFRB2005A	Provide assistance in cake, pastry and biscuit production	
FDFRB3001A	Produce pastry	
FDFRB3002A	Produce bread dough	
FDFRB3003A	Produce sponge, cake and cookie batter	
FDFRB3004A	Decorate cakes and cookies	
FDFRB3005A	Bake bread	
FDFRB3006A	Bake sponges, cakes and cookies	
FDFRB3007A	Bake pastry products	
FDFRB3008A	Store, handle and use frozen dough	
FDFRB3009A	Retard dough	
FDFRB3010A	Process dough	
FDFRB3011A	Diagnose and respond to product and process faults (bread)	FDFRB3002A FDFRB3005A FDFRB3010A
FDFRB3012A	Diagnose and respond to product and process faults (pastry, cake and cookies)	FDFRB2001A FDFRB2002A FDFRB3001A FDFRB3003A FDFRB3004A FDFRB3006A

Code	Title	Pre-Requisite (Code/s)
		FDFRB3007A
FDFRB3013A	Produce artisan breads	FDFRB3002A FDFRB3005A FDFRB3010A
FDFRB3014A	Produce sweet yeast products	
FDFRB3015A	Produce and decorate gateaux and tortes	FDFRB2002A FDFRB2003A FDFRB3001A FDFRB3003A FDFRB3004A FDFRB3006A FDFRB3007A
FDFRB3016A	Plan and schedule production for retail bakery	
FDFRB3017A	Participate in product development	
FDFRB4001A	Apply marketing principles to retail bakery	
FDFRB4002A	Control bakery operations to meet quality and production requirements	
FDFRB4003A	Apply baking science to work practices	
FDFRB4004A	Produce sourdough products	
FDFRB4005A	Apply advanced finishing techniques for specialty cakes and desserts	FDFRB2002A FDFRB2003A FDFRB3001A FDFRB3004A FDFRB3006A FDFRB3007A FDFRB3015A
FDFRB4006A	Explore and apply baking techniques to develop new products	

Code	Title	Pre-Requisite (Code/s)
FDFRB4007A	Evaluate and assess bakery product	
FDFRB4008A	Set up sustainable baking operations	
FDFRB4008A	Coordinate material supply for baking processes	FDFRB4003A
FDFRB4010A	Prepare plated sweets and desserts	
FDFSUG101A	Install pre-ballast	
FDFSUG102A	Undertake shunting operations	
FDFSUG103A	Move cane bins in a marshalling yard	
FDFSUG104A	Check a cane sample for extraneous matter	
FDFSUG105A	Manually clean and maintain housekeeping standards	
FDFSUG201A	Lay sleepers for cane rail systems	
FDFSUG202A	Lay rails for cane rail systems	
FDFSUG203A	Lay skeleton track for cane rails systems	
FDFSUG204A	Operate tamping equipment	
FDFSUG205A	Construct turnouts	FDFSUG202A
FDFSUG206A	Drive a cane locomotive	
FDFSUG207A	Conduct cane weighbridge operations	
FDFSUG208A	Operate a tipping station	
FDFSUG209A	Operate an extraction station	
FDFSUG210A	Operate a juice clarification process	
FDFSUG211A	Operate a mud filtration process	
FDFSUG212A	Chemically clean equipment	
FDFSUG213A	Operate a pans station	
FDFSUG214A	Operate a low grade fugal station	

Code	Title	Pre-Requisite (Code/s)
FDFSUG215A	Operate a high grade fugal station	
FDFSUG216A	Operate a crystalliser station process	
FDFSUG217A	Operate a turbine	
FDFSUG218A	Operate a boiler - basic	
FDFSUG219A	Operate a bagasse fuel supply system	
FDFSUG220A	Operate a coal fuel supply system	
FDFSUG221A	Operate an ash separation system	
FDFSUG222A	Operate a waste water treatment system	
FDFSUG223A	Operate a cooling water system	
FDFSUG224A	Perform standard tests on cane samples	
FDFSUG225A	Collect and prepare samples	
FDFSUG226A	Perform general drilling operations	
FDFSUG227A	Perform general lathe operations	
FDFSUG228A	Perform general milling operations	
FDFSUG229A	Perform general planing and shaping operations	
FDFSUG230A	Undertake forming, bending and shaping	
FDFSUG231A	Undertake simple fabrication	
FDFSUG301A	Drive a master-slave locomotive	FDFSUG206A
FDFSUG302A	Control cane traffic movements	
FDFSUG303A	Adjust cane delivery schedules to meet daily milling requirements	
FDFSUG304A	Operate a boiler - intermediate	
FDFSUG305A	Operate a boiler - advanced	
FDFSUG306A	Monitor a sugar mill powerhouse	FDFSUG217A

Code	Title	Pre-Requisite (Code/s)
FDFSUG307A	Perform factory control tests	
FDFSUG308A	Analyse and convey workplace information	
FDFSUG309A	Operate a sugar system	
FDFTEC3001A	Participate in a HACCP team	FDFFS2001A
FDFTEC3002A	Implement the pest prevention program	
FDFTEC3003A	Apply raw materials, ingredient and process knowledge to production problems	
FDFTEC4001A	Determine handling processes for perishable food items	
FDFTEC4002A	Manage controlled atmosphere storage	
FDFTEC4003A	Control food contamination and spoilage	FDFFS3001A
FDFTEC4004A	Apply basic process engineering principles to food processing	FDFOP2030A FDFTEC4007A FDFOP2015A FDFOP2061A
FDFTEC4005A	Apply an understanding of food additives	
FDFTEC4006A	Apply an understanding of legal requirements of food production	
FDFTEC4007A	Describe and analyse data using mathematical principles	FDFOP2015A FDFOP2061A
FDFTEC4008A	Apply principles of food packaging	
FDFTEC4009A	Identify the physical and chemical properties of materials, food and related products	
FDFTEC4010A	Manage water treatment processes	MSAENV272B
FDFTEC4011A	Participate in product recalls	FDFFS3001A
FDFTEC5001A	Manage and evaluate new product trials	
FDFTEC5002A	Manage utilities and energy for a production process	

Code	Title	Pre-Requisite (Code/s)
FDFWGG2001A	Bench graft vines	
FDFWGG2002A	Carry out potting operations	
FDFWGG2003A	Hand prune vines	
FDFWGG2004A	Undertake irrigation systems maintenance activities	
FDFWGG2005A	Maintain callusing environment	
FDFWGG2006A	Obtain and process rootlings	
FDFWGG2007A	Tend containerised nursery plants	
FDFWGG2008A	Train vines	
FDFWGG2009A	Operate specialised canopy management equipment	AHCMOM202A
FDFWGG2010A	Field graft vines	
FDFWGG2011A	Install irrigation components	
FDFWGG2012A	Identify and treat nursery plant disorders	
FDFWGG2013A	Deliver injection requirements	
FDFWGG2014A	Operate the irrigation system	
FDFWGG2015A	Support mechanical harvesting operations	AHCMOM202A FDFWGG218A
FDFWGG2016A	Install and maintain vine trellis	
FDFWGG2017A	Recognise disorders and identify pests and diseases	
FDFWGG2018A	Operate vineyard equipment	
FDFWGG2019A	Perform vertebrate pest control activities	
FDFWGG2020A	Carry out hot water treatment	
FDFWGG2021A	Operate nursery cold storage facilities	
FDFWGG2022A	Take and process vine cuttings	
FDFWGG2023A	Carry out basic canopy maintenance	

Code	Title	Pre-Requisite (Code/s)
FDFWGG2024A	Pick grapes by hand	
FDFWGG2025A	Plant vines by hand	
FDFWGG3001A	Apply chemicals and biological agents	
FDFWGG3002A	Coordinate canopy management activities	
FDFWGG3003A	Coordinate crop harvesting activities	FDFWGG2024A
FDFWGG3004A	Coordinate nursery activities	FDFWGG2002A FDFWGG2006A FDFWGG3009A FDFWGG2007A FDFWGG2012A
FDFWGG3005A	Perform field nursery activities	
FDFWGG3006A	Coordinate hand pruning activities	FDFWGG2003A
FDFWGG3007A	Implement an irrigation schedule	FDFWGG2014A
FDFWGG3008A	Operate a mechanical harvester	
FDFWGG3009A	Monitor and maintain nursery plants	FDFWGG2007A FDFWGG2012A
FDFWGG3010A	Implement a soil management program	FDFWGG2018A FDFWGG3001A
FDFWGG3011A	Perform shed nursery activities	
FDFWGG3012A	Monitor and control vine disorders and damage	
FDFWGG3013A	Operate spreading and seeding equipment	AHCMOM202A
FDFWIN1001A	Identify key operations in wine production	
FDFWIN1002A	Identify viticulture processes	
FDFWIN2001A	Perform effectively in a wine industry workplace	
FDFWIN2002A	Identify and control risks in own work	

Imported Units of Competency in FDF10v3 Training Package

Code	Title	Origin
AHCARB205A	Operate and maintain chainsaws	AHC10
AHCBAC101A	Support agricultural crop work	AHC10
AHCBAC204A	Prepare grain storages	AHC10
AHCBUS405A	Participate in an e-business supply chain	AHC10
AHCCHM101A	Follow basic chemical safety rules	AHC10
AHCCHM201A	Apply chemicals under supervision	AHC10
AHCCHM303A	Prepare and apply chemicals	AHC10
AHCCHM304A	Transport, handle and store chemicals	AHC10
AHCINF204A	Fabricate and repair metal or plastic structures	AHC10
AHCMOM101A	Assist with routine maintenance of machinery and equipment	AHC10
AHCMOM202A	Operator tractors	AHC10
AHCMOM203A	Operate basic machinery and equipment	AHC10
AHCMOM204A	Undertake operational maintenance of machinery	AHC10
AHCMOM207A	Conduct front end loader operations	AHC10
AHCMOM301A	Coordinate machinery and equipment maintenance and repair	AHC10
AHCMOM302A	Perform machinery maintenance	AHC10
AHCMOM304A	Operate machinery and equipment	AHC10
AHCMOM305A	Operate specialised machinery and equipment	AHC10
AHCP301A	Implement a plant nutrition program	AHC10
AHCPGD301A	Implement a plant establishment program	AHC10
AHCPHT401A	Assess olive oil for style and quality	AHC10
AHCSOL201A	Determine basic properties of soil/growing media	AHC10

Code	Title	Origin
AHCSOL401A	Sample soils and interpret results	AHC10
AHCWRK308A	Handle bulk materials in storage area	AHC10
BSBCOM502B	Evaluate and review compliance	BSB07
BSBCOM503B	Develop processes for the management of breaches in compliance requirements	BSB07
BSBCUS201B	Deliver a service to customers	BSB07
BSBCUS301B	Deliver and monitor a service to customers	BSB07
BSBCUS401B	Coordinate implementation of customer service strategies	BSB07
BSBCUS501C	Manage quality customer service	BSB07
BSBFIM501A	Manage budgets and financial plans	BSB07
BSBHRM402A	Recruit, select and induct staff	BSB07
BSBINN301A	Promote innovation in a team environment	BSB07
BSBINT303B	Organise the importing and exporting of goods	BSB07
BSBITU201A	Produce simple word processed documents	BSB07
BSBITU202A	Create and use spreadsheets	BSB07
BSBLED401A	Develop teams and individuals	BSB07
BSBMGT401A	Show leadership in the workplace	BSB07
BSBMGT402A	Implement operational plan	BSB07
BSBMGT403A	Implement continuous improvement	BSB07
BSBMGT502B	Manage people performance	BSB07
BSBMGT515A	Manage operational plan	BSB07
BSBMGT516C	Facilitate continuous improvement	BSB07
BSBMKG501B	Identify and evaluate marketing opportunities	BSB07
BSBMKG507A	Interpret market trends and developments	BSB07

Code	Title	Origin
BSBMKG514A	Implement and monitor marketing activities	BSB07
BSBOHS503B	Assist in the design and development of OHS participative arrangements	BSB07
BSBPMG510A	Manage projects	BSB07
BSBRES401A	Analyse and present research information	BSB07
BSBSMB301A	Investigate micro business opportunities	BSB07
BSBSMB401A	Establish legal and risk management requirements of small business	BSB07
BSBSMB402A	Plan small business finances	BSB07
BSBSMB403A	Market the small business	BSB07
BSBSMB404A	Undertake small business planning	BSB07
BSBSMB405B	Monitor and manage small business operations	BSB07
BSBSMB406A	Manage small business finances	BSB07
BSBSMB407A	Manage a small team	BSB07
BSBWOR204A	Use business technology	BSB07
BSBWOR401A	Establish effective workplace relationships	BSB07
BSBWOR402A	Promote team effectiveness	BSB07
BSBWOR403A	Manage stress in the workplace	BSB07
BSBWOR404B	Develop work priorities	BSB07
BSBWOR502B	Ensure team effectiveness	BSB07
BSBWRT301A	Write simple documents	BSB07
BSBWRT401A	Write complex documents	BSB07
CPCEDO3011A	Perform dogging	CPC08
CPCCOHS2001 A	Apply OHS requirements, policies and procedures in the construction industry	CPC08

Code	Title	Origin
CPCCRI3012A	Perform basic rigging	CPC08
CPCSC2002A	Erect and dismantle basic scaffolding	CPC08
HLTFA201B	Provide basic emergency life support	HLT07
HLTFA301C	Apply first aid	HLT07
LMTGN3007B	Monitor and operate trade waste process	LMT07
MEM13003B	Work safely with industrial chemicals and materials	MEM05
MEM15001B	Perform basic statistical quality control	MEM05
MEM18001C	Use hand tools	MEM05
MEM18002B	Use power tools / hand held operations	MEM05
MSACMT270A	Use sustainable energy practices	MSA07
MSACMT671A	Develop and manage sustainable environmental practices	MSA07
MSAENV272B	Participate in environmentally sustainable work practices	MSA07
MSAENV472B	Implement and monitor environmentally sustainable work practices	MSA07
MSAPMOHS21 6A	Operate breathing apparatus	MSA07
MSAPMOHS21 7A	Gas test atmospheres	MSA07
MSAPMOPS400 A	Optimise process/plant area	MSA07
MSAPMOPS401 A	Trial new process or product	MSA07
MSAPMOPS404 A	Co-ordinate maintenance	MSA07
MSAPMOPS405 A	Identify problems in fluid power system	MSA07

Code	Title	Origin
MSAPMOPS406 A	Identify problems in electronic control systems	MSA07
MSAPMPER200 C	Work in accordance with an issued permit	MSA07
MSAPMPER201 A	Monitor and control work permits	MSA07
MSAPMPER205 C	Enter confined space	MSA07
MSAPMPER300 C	Issue work permits	MSA07
MSAPMPER400 A	Coordinate permit process	MSA07
MSAPMSUP303 A	Identify equipment faults	MSA07
MSAPMSUP310 A	Contribute to the development of plant documentation	MSA07
MSAPMSUP330 A	Develop and adjust a production schedule	MSA07
MSAPMSUP390 A	Use structured problem solving tools	MSA07
MSL912001A	Work within a laboratory_field workplace (induction)	MSL09
MSL922001A	Record and present data	MSL09
MSL933001A	Maintain the laboratory_field workplace fit for purpose	MSL09
MSL943002A	Participate in laboratory_field workplace safety	MSL09
MSL952001A	Collect routine site samples	MSL09
MSL952002A	Handle and transport samples or equipment	MSL09
MSL972001A	Conduct routine site measurements	MSL09
MSL973001A	Perform basic tests	MSL09
MSL973004A	Perform aseptic techniques	MSL09

Code	Title	Origin
MSL973007A	Perform microscopic examination	MSL09
MSL974003A	Perform chemical tests and procedures	MSL09
MSL974004A	Perform food tests	MSL09
MSL974006A	Perform biological procedures	MSL09
MSL975005A	Conduct sensory analysis	MSL09
MSL975020A	Apply routine spectrometric techniques	MSL09
MSL975021A	Apply routine electrometric techniques	MSL09
MSL975022A	Perform food analyses	MSL09
MSS402001A	Apply competitive systems and practices	MSS11
MSS402002A	Sustain process improvements	MSS11
MSS402010A	Manage the impact of change on own work	MSS11
MSS402021A	Apply Just in Time procedures	MSS11
MSS402030A	Apply cost factors to work practices	MSS11
MSS402031A	Interpret product costs in terms of customer requirements	MSS11
MSS402040A	Apply 5S procedures	MSS11
MSS402050A	Monitor process capability	MSS11
MSS402051A	Apply quality standards	MSS11
MSS402060A	Use planning software systems in operations	MSS11
MSS402061A	Use SCADA systems in operations	MSS11
MSS402080A	Undertake root cause analysis	MSS11
MSS402081A	Contribute to the application of a proactive maintenance strategy	MSS11
MSS403001A	Implement competitive systems and practices	MSS11
MSS403002A	Ensure process improvements are sustained	MSS11

Code	Title	Origin
MSS403005A	Facilitate use of a Balanced Scorecard for performance improvement	MSS11
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices	MSS11
MSS403011A	Facilitate implementation of competitive systems and practices	MSS11
MSS403013A	Lead team culture improvement	MSS11
MSS403021A	Facilitate a Just in Time system	MSS11
MSS403023A	Monitor a levelled pull system of operations	MSS11
MSS403030A	Improve cost factors in work practices	MSS11
MSS403032A	Analyse manual handling processes	MSS11
MSS403040A	Facilitate and improve implementation of 5S	MSS11
MSS403041A	Facilitate breakthrough improvements	MSS11
MSS403051A	Mistake proof an operational process	MSS11
MSS404050A	Undertake process capability improvements	MSS11
MSS404052A	Apply statistics to operational processes	MSS11
MSS404053A	Use six sigma techniques	MSS11
MSS404060A	Facilitate the use of planning software systems in a work area or team	MSS11
MSS404061A	Facilitate the use of SCADA systems in a team or work area	MSS11
MSS404081A	Undertake proactive maintenance analyses	MSS11
MSS404082A	Assist in implementing a proactive maintenance strategy	MSS11
MSS404083A	Support proactive maintenance	MSS11
MSS405001A	Develop competitive systems and practices for an organisation	MSS11

Code	Title	Origin
MSS405002A	Analyse and map a value stream	MSS11
MSS405005A	Manage competitive systems and practices responding to individual and unique customer orders	MSS11
MSS405006A	Develop a Balanced Scorecard	MSS11
MSS405007A	Introduce competitive systems and practices to a small or medium enterprise	MSS11
MSS405010A	Manage relationships with non-customer external organisations	MSS11
MSS405011A	Manage people relationships	MSS11
MSS405012A	Manage workplace learning	MSS11
MSS405013A	Facilitate holistic culture improvement in an organisation	MSS11
MSS405014A	Develop a communications strategy to support operations	MSS11
MSS405020A	Develop quick changeover procedures	MSS11
MSS405022A	Design a process layout	MSS11
MSS405023A	Develop a levelled pull system for operations and processes	MSS11
MSS405030A	Optimise cost of product or service	MSS11
MSS405031A	Undertake value analysis of product or process cost in terms of customer requirements	MSS11
MSS405032A	Analyse cost implications of maintenance strategy	MSS11
MSS405040A	Manage 5S system in an organisation	MSS11
MSS405050A	Determine and improve process capability	MSS11
MSS405060A	Develop the application of enterprise control systems in an organisation	MSS11
MSS405061A	Determine and establish information collection requirements and processes	MSS11

Code	Title	Origin
MSS405062A	Develop a documentation control strategy for an organisation	MSS11
MSS405070A	Develop and manage sustainable energy practices	MSS11
MSS405075A	Facilitate the development of a new product	MSS11
MSS405081A	Develop a proactive maintenance strategy	MSS11
MSS405082A	Adapt a proactive maintenance strategy to the process operations sector	MSS11
MSS405083A	Adapt a proactive maintenance strategy for a seasonal or cyclical business	MSS11
MTMCOR202A	Apply hygiene and sanitation practices	MTM11
MTMCOR404A	Facilitate hygiene and sanitation performance	MTM11
MTMP2006B	Apply animal welfare and handling requirements	MTM11
MTMP2197C	Clean after operations – boning room	MTM11
MTMP402B	Implement a Meat Hygiene Assessment Program	MTM11
MTMP404B	Apply meat science	MTM11
MTMPS411C	Monitor a meat preservation process	MTM11
MTMPS412C	Monitor and overview the production of processed meats and smallgoods	MTM11
MTMPS414B	Monitor and overview the production of Uncooked Comminuted Fermented Meat (UCFM)	MTM11
MTMPS5603C	Develop, manage and maintain quality systems	MTM11
MTMPSR201C	Vacuum pack product	MTM11
MTMPSR203A	Sharpen knives	MTM11
MTMPSR407A	Assess and evaluate meat industry requirements and processes	MTM11
MTMPSR408A	Specify beef product using AUS-MEAT language	MTM11
MTMPSR409A	Specify sheep product using AUS-MEAT language	MTM11

Code	Title	Origin
MTMPSR410A	Specify pork product using AUS-MEAT language	MTM11
MTMPSR5601C	Design and manage the food safety system	MTM11
MTMR308C	Prepare and produce value-added products	MTM11
PMA08	Minimise environmental impact of process	PMA08
PMBPROD211B	Operate blow moulding equipment	PMB07
PMBPROD270B	Operate injection blow moulding equipment	PMB07
PMBTECH406A	Diagnose production equipment problems	PMB07
RIICBM305A	Install pre-cast concrete bridge decks	RII09
RIIHAN305A	Operate gantry or overhead crane	RII09
RIIMPO319A	Conduct backhoe/loader operations	RII09
RIIRIS201B	Conduct local risk control	RII09
SFIPROC504C	Design and manage a product recall	SFI11
SIRRFSA001A	Apply retail food safety practices	SIR07
SIRRMER004A	Prepare and display bakery products	SIR07
SIRXCCS201	Apply point-of-sale handling procedures	SIR07
SIRXCCS202	Interact with customers	SIR07
SIRXCCS304	Coordinate interaction with customers	SIR07
SIRXFIN201	Balance and secure point-of-sale terminal	SIR07
SIRXFIN002A	Perform retail finance duties	SIR07
SIRXICT001A	Operate retail technology	SIR07
SIRXICT303	Operate retail information technology systems	SIR07
SIRXINV001A	Perform stock control procedures	SIR07
SIRXINV002A	Maintain and order stock	SIR07
SIRXMER201	Merchandise products	SIR07

Code	Title	Origin
SIRXMPR006A	Manage promotional activities	SIR07
SIRXRSK001A	Minimise theft	SIR07
SIRXRSK002A	Maintain store security	SIR07
SIRXSL201	Sell products and services	SIR07
SIRXSL002A	Advise on products and services	SIR07
SITHCCC001B	Organise and prepare food	SIT07
SITHCCC002A	Present food	SIT07
SITHCCC005A	Use basic methods of cookery	SIT07
SITHCCC014A	Prepare pastries, cakes and yeast goods	SIT07
SITHCCC022A	Prepare chocolate and chocolate confectionery	SIT07
SITHFAB003A	Serve food and beverage to customers	SIT07
SITHFAB004A	Provide food and beverage service	SIT07
SITHFAB005A	Provide table service of alcoholic beverages	SIT07
SITHFAB009A	Provide responsible service of alcohol	SIT07
SITHFAB011A	Develop and update food and beverage knowledge	SIT07
SITHFAB012B	Prepare and serve espresso coffee	SIT07
SITHFAB016A	Plan and monitor espresso coffee service	SIT07
SITHFAB222A	Conduct a product tasting of alcoholic beverages	SIT07
SITHFAB325A	Provide specialised advice on Australian wines	SIT07
SITHFAB326A	Provide specialised advice on imported wines	SIT07
SITHPAT001A	Prepare and produce pastries	SIT07
SITHPAT002A	Prepare and produce cakes	SIT07
SITHPAT003A	Prepare and produce yeast goods	SIT07
SITHPAT004A	Prepare baking product for patisseries	SIT07

Code	Title	Origin
SITHPAT007A	Prepare and display petits fours	SIT07
SITHPAT008A	Prepare and model marzipan	SIT07
SITHPAT010A	Prepare and display sugar work	SIT07
SITTIND001B	Develop and update tourism industry knowledge	SIT07
SITXCCS001B	Provide visitor information	SIT07
SITXCOM001A	Work with colleagues and customers	SIT07
SITXFIN001A	Process financial transactions	SIT07
SITXOHS002A	Follow workplace hygiene procedures	SIT07
TAEASS401B	Plan assessment activities and processes	TAE10
TAEASS402B	Assess competence	TAE10
TAEASS403B	Participate in assessment validation	TAE10
TAEASS502B	Design and develop assessment tools	TAE10
TAEDEL301A	Provide work skill instruction	TAE10
TAEDEL404A	Mentor in the workplace	TAE10
TAEDES401A	Design and develop learning programs	TAE10
TLIA2009A	Complete and check import/export documentation	TLI10
TLIA2011A	Package goods	TLI10
TLIA2012A	Pick and process orders	TLI10
TLIA2014A	Use product knowledge to complete work operations	TLI10
TLIA2021A	Despatch stock	TLI10
TLIA2022A	Participate in stocktakes	TLI10
TLIA3010A	Coordinate goods to bond premises	TLI10
TLIA3015A	Complete receipt / despatch documentation	TLI10
TLIA3016A	Use inventory systems to organise stock control	TLI10

Code	Title	Origin
TLIA3017A	Identify products and store to specifications	TLI10
TLIA3018A	Organise despatch operations	TLI10
TLIA3019A	Organise receival operations	TLI10
TLIA3024A	Organise warehouse records operations	TLI10
TLIA3026A	Monitor storage facilities	TLI10
TLIA3038A	Control and order stock	TLI10
TLIA3039A	Receive and store stock	TLI10
TLIA4025A	Regulate temperature controlled stock	TLI10
TLIB2009A	Check conveyor operational status	TLI10
TLIC2041A	Operate self-propelled equipment on track	TLI10
TLID1001A	Shift materials safely using manual handling methods	TLI10
TLID1002A	Shift a load using manually-operated equipment	TLI10
TLID2003A	Handle dangerous goods/hazardous substances	TLI10
TLID2004A	Load and unload goods/cargo	TLI10
TLID2010A	Operate a forklift	TLI10
TLID2022A	Conduct weighbridge operations	TLI10
TLID3011A	Conduct specialized forklift operations	TLI10
TLID3035A	Operate a boom type elevating work platform	TLI10
TLID3036A	Lift and move load using a mobile crane	TLI10
TLIJ2003A	Apply grain protection measures	TLI10
TLIJ2004A	Implement grain monitoring measures	TLI10
TLIK2010A	Use infotechnology devices in the workplace	TLI10
TLILIC2001A	Licence to operate a forklift truck	TLI10
TLILIC2014A	Licence to drive light rigid vehicle	TLI10

Code	Title	Origin
TLILIC2015A	Licence to drive medium rigid vehicle	TLI10
TLILIC2016A	Licence to drive heavy rigid vehicle	TLI10
TLILIC3006A	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)	TLI10
TLILIC3017A	Licence to drive heavy combination vehicle	TLI10
TLIP2029A	Prepare and process financial documents	TLI10

Qualification Mapping of FDF10 - all Versions

Qualification Mapping – FDF10v3 to FDF10v4

FDF10v3 Qualification code and title	FDF10v4 Qualification code and title	Mapping	Comment
	FDF41012 Certificate IV in Flour Milling		New Qualification

Qualification Mapping – FDF10v2 to FDF10v3

FDF10v2 Qualification code and title	FDF10v3 Qualification code and title	Mapping	Comment
	FDF11012 Certificate I in Sugar Milling Industry Operations	N	New Qualification based on SUG10102 Certificate I in Sugar Milling. Non-equivalent – vocational outcome is equivalent but Packaging Rules differ.
	FDF21012 Certificate II in Sugar Milling Industry Operations	N	New Qualification based on SUG20102 Certificate II in Sugar Milling. Non-equivalent – vocational outcome is equivalent but Packaging Rules differ.
	FDF31012 Certificate III in Sugar Milling Industry Operations	N	New Qualification based on SUG30102 Certificate III in Sugar Milling. Non-equivalent – vocational outcome is equivalent but Packaging

			Rules differ.
--	--	--	---------------

Qualification Mapping – FDF10 Training Package to FDF10 Version 2 Training Package

FDF10 qualification code and title	FDF10 Version 2 qualification code and title	Mapping	Comment
FDF10110 Certificate I in Food Processing	FDF10111 Certificate I in Food Processing	N	Qualification replaces earlier version of the Certificate I in Food Processing and Certificate I in Food Processing (Wine)
FDF10210 Certificate I in Pharmaceutical Manufacturing	FDF10210 Certificate I in Pharmaceutical Manufacturing		No change
FDF20110 Certificate II in Food Processing	FDF20111 Certificate II in Food Processing	E	Qualification replaces earlier version
FDF20210 Certificate II in Pharmaceutical Manufacturing	FDF20211 Certificate II in Pharmaceutical Manufacturing	E	Qualification replaces earlier version
FDF20510 Certificate II in Retail Baking Assistance	FDF20510 Certificate II in Retail Baking Assistance		No change
FDF20910 Certificate II in Food Processing (Sales)	FDF20911 Certificate II in Food Processing (Sales)	E	Qualification replaces earlier version
FDF30110 Certificate III in Food Processing	FDF30111 Certificate III in Food Processing	E	Qualification replaces earlier version
FDF30210 Certificate III in Pharmaceutical Manufacturing	FDF30210 Certificate III in Pharmaceutical Manufacturing		No change
FDF30310 Certificate III in Plant Baking	FDF30310 Certificate III in Plant Baking		No change
FDF30510 Certificate III in Retail Baking (Cake and Pastry)	FDF30510 Certificate III in Retail Baking (Cake and Pastry)		No change

FDF10 qualification code and title	FDF10 Version 2 qualification code and title	Mapping	Comment
FDF30610 Certificate III in Retail Baking (Bread)	FDF30610 Certificate III in Retail Baking (Bread)		No change
FDF30710 Certificate III in Retail Baking (Combined)	FDF30710 Certificate III in Retail Baking (Combined)		No change
FDF30910 Certificate III in Food Processing (Sales)	FDF30910 Certificate III in Food Processing (Sales)		No change
FDF40110 Certificate IV in Food Processing	FDF40110 Certificate IV in Food Processing		No change
FDF40210 Certificate IV in Pharmaceutical Manufacturing	FDF40210 Certificate IV in Pharmaceutical Manufacturing		No change
	FDF40311 Certificate IV in Food Science and Technology		New qualification
	FDF40811 Certificate IV in Advanced Baking		New qualification
FDF50110 Diploma of Food Processing	FDF50110 Diploma of Food Processing		No change
FDF50210 Diploma of Pharmaceutical Manufacturing	FDF50210 Diploma of Pharmaceutical Manufacturing		No change
	FDF50311 Diploma of Food Science and Technology		New qualification

Qualification Mapping – FDF03 Training Package to FDF10 Version 2 Training Package

FDF03 qualification code and title	FDF10 Version 2 qualification code and title	Mapping	Comment
FDF10403 Certificate I in Food Processing (Wine)	FDF10111 Certificate I in Food Processing	N	Qualification replaces earlier version of the Certificate I in Food Processing and Certificate I in Food Processing (Wine)
FDF20403 Certificate II in Food Processing (Wine)	FDF20411 Certificate II in Wine Industry Operations	E	Qualification replaces earlier version
FDF30403 Certificate III in Food Processing (Wine)	FDF30411 Certificate III in Wine Industry Operations	E	Qualification replaces earlier version

Unit Mapping FDF10v3 to FDF10v4**Units of Competency Mapping – FDF10v3 to FDF10v4**

FDF10v3 Unit code	FDF10v3 Unit title	FDF10v4 Unit code	FDF10v4 Unit title	Mapping	Comment
		FDFGR3003A	Lead flour milling shift operations		New Unit
		FDFGR3004A	Control mill processes and performance		New Unit
		FDFGR4001A	Control power and automation for milling processes		New Unit
		FDFGR4002A	Supervise testing processes for wheat and flour		New Unit
		FDFGR4003A	Manage mill logistics and support services		New Unit
		FDFGR4004A	Supervise dust control		New Unit

FDF10v3 Unit code	FDF10v3 Unit title	FDF10v4 Unit code	FDF10v4 Unit title	Mapping	Comment
			procedures in a grain processing enterprise		

Unit Mapping FDF10v2 to FDF10v3

Units of Competency Mapping – FDF10v2 to FDF10v3

FDF10v2 Unit code	FDF10v2 Unit title	FDF10v3 Unit code	FDF10v3 Unit title	Mapping	Comment
		FDFGR2011A	Receive grain for malting		New Unit
		FDFGR2012A	Prepare malted grain		New Unit
		FDFGR2013A	Blend and dispatch malt		New Unit
		FDFOP2066A	Operate a wort production process		New Unit
		FDFOP2067A	Operate a brewery fermentation process		New Unit
		FDFOP2068A	Operate a beer maturation process		New Unit
		FDFOP2069A	Operation a beer filtration process		New Unit
		FDFOP2070A	Operate a bright beer tank process		New Unit
		FDFOP2071A	Identify key stages and beer production equipment in a brewery		New Unit
		FDFOP2072A	Operate a beer		New Unit

FDF10v2 Unit code	FDF10v2 Unit title	FDF10v3 Unit code	FDF10v3 Unit title	Mapping	Comment
			filling process		
		FDFOP2073A	Operate a beer packaging process		New Unit
		FDFOP2074A	Prepare and monitor beer yeast propagation processes		New Unit
		FDFSUG101A	Install pre-ballast	E	New Unit based on SUGSPPB1A Prepare pre-ballast.
		FDFSUG102A	Undertake shunting operations	E	New Unit based on SUGTPST1A Prepare for shunting operations.
		FDFSUG103A	Move cane bins in a marshalling yard	E	New Unit based on SUGTCYM1A Control yard movements.
		FDFSUG104A	Check a cane sample for extraneous matter	E	New Unit based on SUGTAEM1A Assess extraneous matter in cane.
		FDFSUG105A	Manually clean and maintain housekeeping standards	E	New Unit based on SUGCMCH1A Manually clean and maintain housekeeping standards.
		FDFSUG201A	Lay sleepers for cane rail systems	E	New Unit based on SUGSLSP2A Lay sleepers.
		FDFSUG202A	Lay rails for cane rail systems	E	New Unit based on SUGSLRT2A Lay rails.
		FDFSUG203A	Lay skeleton track for cane rail systems	E	New Unit based on SUGSLST2A Lay skeleton track.

FDF10v2 Unit code	FDF10v2 Unit title	FDF10v3 Unit code	FDF10v3 Unit title	Mapping	Comment
		FDFSUG204A	Operate tamping equipment	E	New Unit based on SUGTOTE2A Operate tamping equipment.
		FDFSUG205A	Construct turnouts	E	New Unit based on SUGSCT2A Construct turnouts.
		FDFSUG206A	Drive a cane locomotive	E	New Unit based on SUGTDCL2A Drive a cane locomotive.
		FDFSUG207A	Conduct cane weighbridge operations	E	New Unit based on SUGTCW2A Conduct cane weighbridge operations.
		FDFSUG208A	Operate a tipping station	E	New Unit based on SUGTOTS2A Operate a tipping station.
		FDFSUG209A	Operate an extraction station	E	New Unit based on SUGPOES2A Operate an extraction station.
		FDFSUG210A	Operate a juice clarification process	E	New Unit based on SUGPJCP2A Operate a juice clarification process.
		FDFSUG211A	Operate a mud filtration process	E	New Unit based on SUGPMFP2A Operate a mud filtration process.
		FDFSUG212A	Chemically clean equipment	E	New Unit based on SUGPCCE2A Chemically clean equipment.
		FDFSUG213A	Operate a pans station	E	New Unit based on SUGPOPS2A Operate a pans station.

FDF10v2 Unit code	FDF10v2 Unit title	FDF10v3 Unit code	FDF10v3 Unit title	Mapping	Comment
		FDFSUG214A	Operate a low grade fugal station	E	New Unit based on SUGPLGF2A Operate a low grade fugal station.
		FDFSUG215A	Operate a high grade fugal station	E	New Unit based on SUGPHGF2A Operate a high grade fugal station.
		FDFSUG216A	Operate a crystalliser station process	E	New Unit based on SUGPCSP2A Operate a crystalliser station process.
		FDFSUG217A	Operate a turbine	E	New Unit based on SUGPOTB2A Operate a turbine.
		FDFSUG218A	Operate a boiler – basic	E	New Unit based on SUGPOBB2A Operate a boiler – basic.
		FDFSUG219A	Operate a bagasse fuel supply system	E	New Unit based on SUGPFSB2A Operate a fuel supply system – bagasse.
		FDFSUG220A	Operate a coal fuel supply system	E	New Unit based on SUGPFSC2A Operate a fuel supply system – coal.
		FDFSUG221A	Operate an ash separation system	E	New Unit based on SUGPARS2A Operate an ash separation system.
		FDFSUG222A	Operate a waste water treatment system	E	New Unit based on SUGPWWT2A Operate a waste water treatment system.
		FDFSUG223A	Operate a cooling	E	New Unit based on SUGPCWS2A Operate

FDF10v2 Unit code	FDF10v2 Unit title	FDF10v3 Unit code	FDF10v3 Unit title	Mapping	Comment
			water system		a cooling water system.
		FDFSUG224A	Perform standard tests on cane samples	E	New Unit based on SUGPPST2A Perform standard tests.
		FDFSUG225	Collect and prepare samples	E	New Unit based on SUGPCPS2A Collect and prepare samples.
		FDFSUG226A	Perform general drilling operations	E	New Unit based on SUGSPGD2A Perform general drilling operations.
		FDFSUG227A	Perform general lathe operations	E	New Unit based on SUGSPGL2A Perform general lathe operations.
		FDFSUG228A	Perform general milling operations	E	New Unit based on SUGSPGM2A Perform general milling operations.
		FDFSUG229A	Perform general planing and shaping operations	E	New Unit based on SUGSPPS2A Perform general planing and shaping operations.
		FDFSUG230A	Undertake forming, bending and shaping	E	New Unit based on SUGSFBS2A Undertake forming, bending and shaping.
		FDFSUG231A	Undertake simple fabrication	E	New Unit based on SUGSUSF2A Undertake simple fabrication.
		FDFSUG301A	Drive a master-slave locomotive	E	New Unit based on SUGTDMS3A Drive a master-slave locomotive.

FDF10v2 Unit code	FDF10v2 Unit title	FDF10v3 Unit code	FDF10v3 Unit title	Mapping	Comment
		FDFSUG302A	Control cane traffic movements	E	New Unit based on SUGTCCT3A Control cane traffic movements.
		FDFSUG303A	Adjust cane delivery schedules to meet daily milling requirements	E	New Unit based on SUGTASD3A Adjust schedule(s) to meet daily workplace requirements.
		FDFSUG304A	Operate a boiler – intermediate	E	New Unit based on SUGPOBI3A Operate a boiler – intermediate.
		FDFSUG305A	Operate a boiler – advanced	E	New Unit based on SUGPOBA3A Operate a boiler – advanced.
		FDFSUG306A	Monitor a sugar mill powerhouse	E	New Unit based on SUGPMPH3A Monitor a powerhouse.
		FDFSUG307A	Perform factory control tests	E	New Unit based on SUGPFCT3A Perform factory control tests.
		FDFSUG308A	Analyse and convey workplace information	E	New Unit based on SUGEACW3A Analyse and convey workplace information.
		FDFSUG309A	Operate a sugar system	E	New Unit based on SUGPOSS3A Operate a system (sugar).

Unit Mapping SUG02 to FDF10v2

Units of Competency Mapping – SUG02 to FDF10v3

SUG02 Unit code	SUG02 Unit title	FDF10v3 Unit code	FDF10v3 Unit title	Mapping	Comment
SUGCOHS1A	Follow safe work procedures	FDFOHS1001A	Work safely	E	
SUGEOHS3A	Monitor the implementation of occupational health and safety	FDFOHS3001A	Contribute to OHS processes	N	SUGEOHS3A was based on FDFOPTENV 2A Implement environmental procedures from FDF03. In FDF10, FDFOPTENV 2A has been replaced with MSAENV272 A Participate in environmentally sustainable work practices, which more specifically targets environmental procedures at this level.
SUGCLCT1A SUGCLIP1A	Locate cane transport systems and functions Locate industry and company processes (sugar)	FDFOP1010A	Communicate workplace information	E	
SUGZPC2A	Operate a process	FDFOP2030A	Operate a process control	E	

	control interface		interface		
SUGPOEP2A	Operate an evaporation process	FDFOP2034A	Operate an evaporation process	E	
SUGCCPA1A	Collect, present and apply workplace information	FDFOP2064A	Provide and apply workplace information	E	
SUGEFTW3A	Facilitate teams	FDFOP2064A	Lead work teams and groups	N	

Units of Competency Mapping – SUG02 to FDF10v3 Imported Units

SUG02 Unit code	SUG02 Unit title	Imported Unit code	Imported Unit title	Mapping	Comment
SUGEIEP2A SUGEEMP3A	Implement environmental procedures Monitor the implementation of the environmental management program.	MSAENV272B	Participate in environmentally sustainable work practices	N	SUGEEMP3A was based on FDFOPTENV2A Implement environmental procedures from FDF03. In FDF10, FDFOPTENV2A has been replaced with MSAENV272A Participate in environmentally sustainable work practices, which more specifically targets environmental procedures at this level.

Unit Mapping FDF03 to FDF10v2

Units of Competency Mapping – FDF03 to FDF10v2

All units now include coverage of sustainability. This is integrated within the key skills and does not affect the technical outcomes of the unit.

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
FDFBPBSUA	Operate the bottle supply process	FDFBP2001A	Operate the bottle supply process	E	Unit replaces earlier version
FDFBPCEPA	Operate the carton erection process	FDFBP2002A	Operate the carton erection process	E	Unit replaces earlier version
FDFBPCCPA	Operate the carton packing process	FDFBP2003A	Operate the carton packing process	E	Unit replaces earlier version
FDFBPBSEA	Operate the bottle sealing process	FDFBP2004A	Operate the bottle sealing process	E	Unit replaces earlier version
FDFBPECOA	Operate the electronic coding process	FDFBP2005A	Operate the electronic coding process	E	Unit replaces earlier version
FDFBPSPGA	Operate traditional sparkling wine processes	FDFBP2006A	Operate traditional sparkling wine processes	E	Unit replaces earlier version
FDFBPTIRA	Operate the tirage and transfer process	FDFBP2007A	Operate the tirage and transfer process	E	Unit replaces earlier version
FDFBPPECB	Perform packaging equipment changeover	FDFBP2008A	Perform packaging equipment changeover	E	Unit replaces earlier version
FDFBPBCAA	Operate the bottle	FDFBP2009A	Operate the bottle	E	Unit replaces earlier version

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
	capsuling process		capsuling process		
FDFBPMANA	Operate manual bottling and packaging processes	FDFBP2010A	Operate manual bottling and packaging processes	E	Unit replaces earlier version
FDFBPPALA	Operate the palletising process	FDFBP2011A	Operate the palletising process	E	Unit replaces earlier version
FDFBPBFPB	Operate the bottle filling process	FDFBP3001A	Operate the bottle filling process	E	Unit replaces earlier version
FDFBPLPB	Operate the labelling process	FDFBP3002A	Operate the labelling process	E	Unit replaces earlier version
FDFBPSFPB	Operate the softpack filling process	FDFBP3003A	Operate the softpack filling process	E	Unit replaces earlier version
FDFCDSWSTB	Conduct winery and/or site tours	FDFCD2001A	Conduct winery and/or site tours	E	Unit replaces earlier version
FDFCDSWTB	Promote wine tourism information	FDFCD2002A	Promote wine tourism information	N	Additional point added to required knowledge as well as some minor edits to range statement
FDFCDSEWB	Evaluate wines (standard)	FDFCD2003A	Evaluate wines (standard)	N	Additional references to sulphur dioxide and tartrate crystals made in required knowledge point on wine

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
					faults and range statement definition.
FDFCDSSCPB	Perform cellar door stock control procedures	FDFCD2004A	Perform cellar door stock control procedure	E	Unit replaces earlier version
FDFCDSSPSA	Sell cellar door products and services	FDFCD2005A	Sell cellar door products and services	E	Unit replaces earlier version
FDFCDSSTA	Conduct a standard product tasting	FDFCD2006A	Conduct a standard product tasting	E	Unit replaces earlier version
FDFCDSEVAB	Evaluate wines (advanced)	FDFCD3001A	Evaluate wines (advanced)	N	Additional references to brettanomyces, sulphur dioxide, and tartrate crystals made in required knowledge point on wine faults and range statement definition.
FDFCDSSPTB	Conduct a specialised product tasting	FDFCD3002A	Conduct a specialised product tasting	E	Unit replaces earlier version
FDFCDSWHB	Coordinate winery hospitality activities	FDFCD3003A	Coordinate winery hospitality activities	E	Unit replaces earlier version
FDFCELOAKB	Perform oak handling activities	FDFCEL2001A	Perform oak handling activities	E	Unit replaces earlier version

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
FDFCELFERA	Perform fermentation operations	FDFCEL2002A	Perform fermentation operations	E	Unit replaces earlier version
FDFCELIONB	Operate the ion exchange process	FDFCEL2003A	Operate the ion exchange process	E	Unit replaces earlier version
FDFCELLSA	Perform single column lees stripping (continuous still brandy) operations	FDFCEL2004A	Perform single column lees stripping (continuous still brandy) operations	E	Unit replaces earlier version
FDFCELPPB	Operate the pressing process	FDFCEL2005A	Operate the pressing process	E	Unit replaces earlier version
FDFCELCSB	Operate clarification by separation (centrifugation) process	FDFCEL2006A	Operate clarification by separation (centrifugation) process	E	Unit replaces earlier version
FDFCELCULA	Propagate and maintain wine cultures	FDFCEL2007A	Prepare and monitor wine cultures	N	This unit has been edited to clarify that both yeast and bacterial cultures are covered and to accommodate various propagation equipment and techniques.
FDFCELDCDA	Perform dual column distillation (continuous still brandy) operations	FDFCEL2008A	Perform dual column distillation (continuous still brandy) operations	E	Unit replaces earlier version

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
FDFCELFDA	Perform first distillation (pot still brandy) operations	FDFCEL2009A	Perform first distillation (pot still brandy) operations	E	Unit replaces earlier version
FDFCELFFPB	Operate the fine filtration process	FDFCEL2010A	Operate the fine filtration process	E	Unit replaces earlier version
FDFCELHECB	Perform heat exchange operations	FDFCEL2011A	Perform heat exchange operations	E	Unit replaces earlier version
FDFCELHSB	Handle spirits	FDFCEL2012A	Handle spirits	N	Old references to Customs and Excise have been updated to the Australian Taxation Office (ATO). Also FDFOP2004A Clean equipment in place removed as prerequisite
FDFCELPLFB	Operate the pressure leaf filtration process	FDFCEL2013A	Operate the pressure leaf filtration process	E	Unit replaces earlier version
FDFCELRVFB	Operate the rotary vacuum filtration process	FDFCEL2014A	Operate the rotary vacuum filtration process	E	Unit replaces earlier version
FDFCELMDA	Perform must draining operations	FDFCEL2015A	Perform must draining operations	E	Unit replaces earlier version
FDFCELPPB	Operate the pressing	FDFCEL2016A	Operate the crushing	E	Unit replaces

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
	process		process		earlier version
FDFCELAFB	Prepare and make additions and finings	FDFCEL2017A	Prepare and make additions and finings	E	Unit replaces earlier version
FDFCELGASB	Carry out inert gas handling operations	FDFCEL2018A	Carry out inert gas handling operations	E	Unit replaces earlier version
FDFCELTRFB	Carry out transfer operations	FDFCEL2019A	Carry out transfer operations	E	Unit replaces earlier version
FDFCELWAXB	Prepare and wax tanks	FDFCEL2020A	Prepare and wax tanks	E	Unit replaces earlier version
FDFCELSDA	Perform second distillation (pot still brandy) operations	FDFCEL3001A	Perform second distillation (pot still brandy) operations	E	Unit replaces earlier version
FDFCELCCSB	Operate the continuous clarification by separation (flotation) process	FDFCEL3002A	Operate the continuous clarification by separation (flotation) process	E	Unit replaces earlier version
FDFCELCONB	Operate the concentration process	FDFCEL3003A	Operate the concentration process	E	Unit replaces earlier version
FDFCELDEOB	Perform de-aromatising, de-alcoholising or de-sulphuring operations	FDFCEL3004A	Perform de-aromatising, de-alcoholising or de-sulphuring operations	E	Unit replaces earlier version

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
FDFCELRECA	Perform rectification (continuous still) operations	FDFCEL3005A	Perform rectification (continuous still) operations	E	Unit replaces earlier version
FDFLABBATA	Perform basic analytical tests	FDFLAB2001A	Perform basic analytical tests	N	Range statement definition of tests edited to make it clear which types of tests should be included and which are optional.
FDFLABBMTA	Perform basic microbiological tests	FDFLAB2002A	Perform basic microbiological tests	E	Unit replaces earlier version
FDFLABBPTA	Perform basic packaging tests and inspections	FDFLAB2003A	Perform basic packaging tests and inspections	E	Unit replaces earlier version
FDFLABLSSB	Prepare laboratory solutions and stains	FDFLAB2004A	Prepare laboratory solutions and stains	E	Unit replaces earlier version
FDFLABPCMA	Prepare and pour culture media	FDFLAB2005A	Prepare and pour culture media	E	Unit replaces earlier version
FDFLABRLDA	Record laboratory data	FDFLAB2006A	Record laboratory data	E	Unit replaces earlier version
FDFLABSLSB	Standardise laboratory solutions	FDFLAB2007A	Standardise laboratory solutions	E	Unit replaces earlier version
FDFLABALDA	Analyse	FDFLAB2008	Analyse	E	Unit replaces

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
	laboratory data	A	laboratory data		earlier version
FDFLABPQCA	Perform packaging quality control procedures	FDFLAB2009 A	Perform packaging quality control procedures	E	Unit replaces earlier version
FDFLABPSSB	Prepare product or show samples	FDFLAB2010 A	Prepare product or show samples	E	Unit replaces earlier version
FDFLABLETB	Use basic laboratory equipment	FDFLAB2011 A	Use basic laboratory equipment	E	Unit replaces earlier version
FDFLABMAE A	Maintain aseptic environment	FDFLAB2012 A	Maintain aseptic environment	E	Unit replaces earlier version
FDFLABCOM A	Use computer technology for laboratory applications	FDFLAB3001 A	Use computer technology for laboratory applications	E	Unit replaces earlier version
FDFLABNRTA	Perform non-routine or specialised tests	FDFLAB3002 A	Perform non-routine or specialised tests	E	Unit replaces earlier version
FDFLABTSHA	Perform routine troubleshooting procedures	FDFLAB3003 A	Perform routine troubleshooting procedures	E	Unit replaces earlier version
FDFWGGBGV B	Bench graft vines	FDFWGG2001 A	Bench graft vines	E	Unit replaces earlier version
FDFWGGCPO B	Carry out potting operations	FDFWGG2002 A	Carry out potting operations	E	Unit replaces earlier version
FDFWGGHPV B	Hand prune vines	FDFWGG2003 A	Hand prune vines	E	Unit replaces earlier version

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
FDFWGGISMB	Undertake irrigation systems maintenance activities	FDFWGG2004 A	Undertake irrigation systems maintenance activities	E	Unit replaces earlier version
FDFWGGMCE B	Maintain callusing environment	FDFWGG2005 A	Maintain callusing environment	E	Unit replaces earlier version
FDFWGGTCP B	Tend containerised nursery plants	FDFWGG2007 A	Tend containerised nursery plants	E	Unit replaces earlier version
FDFWGGTVB	Train vines	FDFWGG2008 A	Train vines	E	Unit replaces earlier version
FDFWGGCMS B	Operate specialised canopy management equipment	FDFWGG2009 A	Operate specialised canopy management equipment	E	Unit replaces earlier version
FDFWGGFGV B	Field graft vines	FDFWGG2010 A	Field graft vines	E	Unit replaces earlier version
FDFWGGICB	Install irrigation components	FDFWGG2011 A	Install irrigation components	E	Unit replaces earlier version
FDFWGGIPDB	Identify and treat nursery plant disorders	FDFWGG2012 A	Identify and treat nursery plant disorders	E	Unit replaces earlier version
FDFWGGIRB	Deliver injection requirements	FDFWGG2013 A	Deliver injection requirements	E	Unit replaces earlier version
FDFWGGISB	Operate the irrigation system	FDFWGG2014 A	Operate the irrigation system	E	Unit replaces earlier version
FDFWGGMHS B	Support mechanical	FDFWGG2015 A	Support mechanical	E	Unit replaces earlier version

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
	harvesting operations		harvesting operations		
FDFWGGMVT B	Install and maintain vine trellis	FDFWGG2016 A	Install and maintain vine trellis	E	Unit replaces earlier version
FDFWGGPDD A	Recognise disorders and identify pests and diseases	FDFWGG2017 A	Recognise disorders and identify pests and diseases	E	Unit replaces earlier version
FDFWGGVEQ B	Operate vineyard equipment	FDFWGG2018 A	Operate vineyard equipment	E	Unit replaces earlier version
FDFWGGVPC B	Perform vertebrate pest control activities	FDFWGG2019 A	Perform vertebrate pest control activities	E	Unit replaces earlier version
FDFWGGHWT B	Carry out hot water treatment	FDFWGG2020 A	Carry out hot water treatment	E	Unit replaces earlier version
FDFWGGOCS B	Operate nursery cold storage facilities	FDFWGG2021 A	Operate nursery cold storage facilities	E	Unit replaces earlier version
FDFWGGVCB / FDFWGGPVC B	Take vine cuttings / Process vine cuttings	FDFWGG2022 A	Take and process vine cuttings		New unit formed from a merger of FDFWGGVCB Take vine cuttings and FDFWGGPVC B Process vine cuttings
FDFWGGCMB B	Carry out basic canopy maintenance	FDFWGG2023 A	Carry out basic canopy maintenance	E	Unit replaces earlier version

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
FDFWGGPGHB	Pick grapes by hand	FDFWGG2024A	Pick grapes by hand	E	Unit replaces earlier version
FDFWGGPVHB	Plant vines by hand	FDFWGG2025A	Plant vines by hand	E	Unit replaces earlier version
FDFWGGCBA B	Apply chemicals and biological agents	FDFWGG3001A	Apply chemicals and biological agents	E	Unit replaces earlier version
FDFWGGCCMA	Coordinate canopy management activities	FDFWGG3002A	Coordinate canopy management activities	E	Unit replaces earlier version
FDFWGGCHA B	Coordinate crop harvesting activities	FDFWGG3003A	Coordinate crop harvesting activities	E	Unit replaces earlier version
FDFWGGCNA B	Coordinate nursery activities	FDFWGG3004A	Coordinate nursery activities	E	Unit replaces earlier version
FDFWGGFNA B	Perform field nursery activities	FDFWGG3005A	Perform field nursery activities	E	Unit replaces earlier version
FDFWGGHPB	Coordinate hand pruning activities	FDFWGG3006A	Coordinate hand pruning activities	E	Unit replaces earlier version
FDFWGGISIB	Implement an irrigation schedule	FDFWGG3007A	Implement an irrigation schedule	E	Unit replaces earlier version
FDFWGGMHB	Operate a mechanical harvester	FDFWGG3008A	Operate a mechanical harvester	E	Unit replaces earlier version
FDFWGGMNP B	Monitor and maintain nursery plants	FDFWGG3009A	Monitor and maintain nursery plants	E	Unit replaces earlier version

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
FDFWGGSMPB	Implement a soil management program	FDFWGG3010A	Implement a soil management program	N	Deleted the prerequisite: FDFWGG3013A Operate spreading and seeding equipment
FDFWGGSNAB	Perform shed nursery activities	FDFWGG3011A	Perform shed nursery activities	E	Unit replaces earlier version
FDFWGGVddb	Monitor and control vine disorders and damage	FDFWGG3012A	Monitor and control vine disorders and damage	E	Unit replaces earlier version
FDFWGGsSEB	Operate spreading and seeding equipment	FDFWGG3013A	Operate spreading and seeding equipment	E	Unit replaces earlier version
FDFWIUINDB	Perform effectively in the workplace (induction)	FDFWIN2001A	Perform effectively in a wine industry workplace	N	Unit has been revised with four new performance criteria designed to strengthen requirement for knowledge of wine industry, wine production stages and personal employment terms and conditions. Consequential changes have been made to the range

FDF03 Unit Code	FDF03 Unit Title	FDF10 Version 2 Unit Code	FDF10 Version 2 Unit Title	Mapping	Comments
					statement.

Overview

What is a Training Package?

A Training Package is an integrated set of nationally endorsed competency standards, assessment guidelines and Australian Qualifications Framework (AQF) qualifications for a specific industry, industry sector or enterprise.

Each Training Package:

- provides a consistent and reliable set of components for training, recognising and assessing peoples skills, and may also have optional support materials
- enables nationally recognised qualifications to be awarded through direct assessment of workplace competencies
- encourages the development and delivery of flexible training which suits individual and industry requirements
- encourages learning and assessment in a work-related environment which leads to verifiable workplace outcomes.

How do Training Packages fit within the National Skills Framework?

The National Skills Framework applies nationally, is endorsed by the Ministerial Council for Vocational and Technical Education, and comprises the Australian Quality Training Framework 2010 (AQTF 2010), and Training Packages endorsed by the National Quality Council (NQC).

How are Training Packages developed?

Training Packages are developed by Industry Skills Councils or enterprises to meet the identified training needs of specific industries or industry sectors. To gain national endorsement of Training Packages, developers must provide evidence of extensive research, consultation and support within the industry area or enterprise.

How do Training Packages encourage flexibility?

Training Packages describe the skills and knowledge needed to perform effectively in the workplace without prescribing how people should be trained. Training Packages acknowledge that people can achieve vocational competency in many ways by emphasising what the learner can do, not how or where they learned to do it. For example, some experienced workers might be able to demonstrate competency against the units of competency, and even gain a qualification, without completing a formal training program.

With Training Packages, assessment and training may be conducted at the workplace, off-the-job, at a training organisation, during regular work, or through work experience, work placement, work simulation or any combination of these.

Who can deliver and assess using Training Packages?

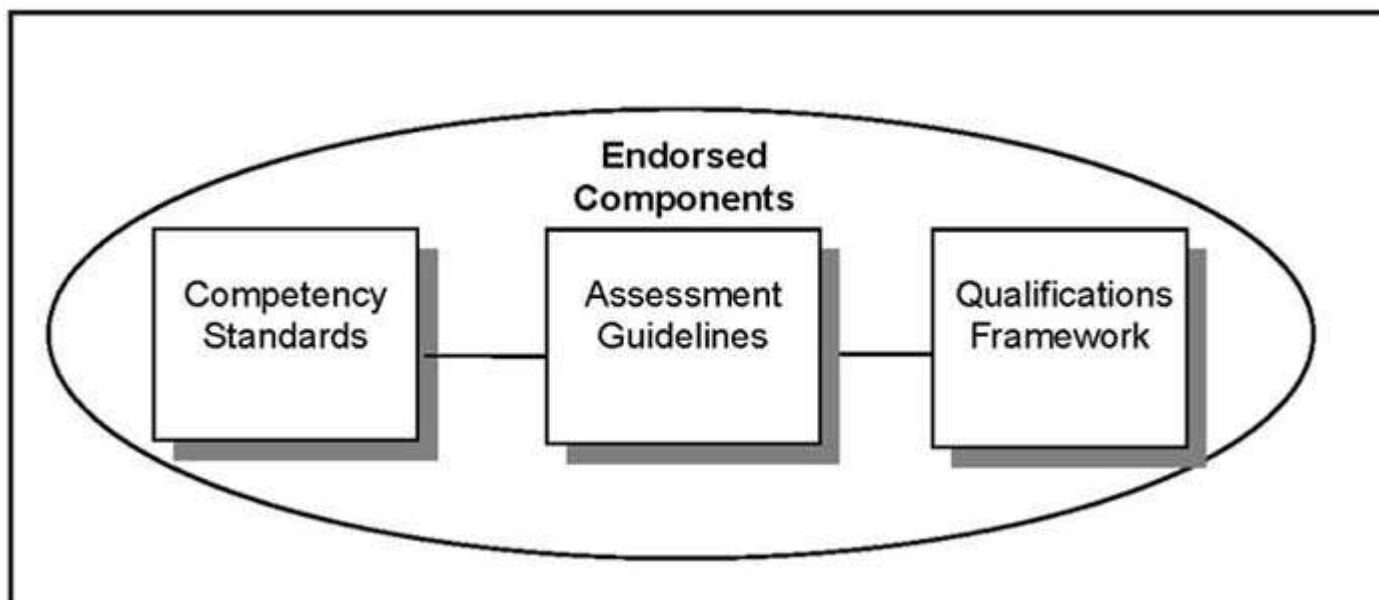
Training and assessment using Training Packages must be conducted by a Registered Training Organisation (RTO) that has the qualifications or specific units of competency on its scope of registration, or that works in partnership with another RTO, as specified in the AQTF 2010.

Training Package Components

Training Packages are made up of mandatory components endorsed by the NQC, and optional support materials.

Training Package Endorsed Components

The nationally endorsed components include the Competency Standards, Assessment Guidelines and Qualifications Framework. These form the basis of training and assessment in the Training Package and, as such, they must be used.



Competency Standards

Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in training and assessment to ensure consistency of outcomes.

Assessment Guidelines

The Assessment Guidelines provide an industry framework to ensure all assessments meet industry needs and nationally agreed standards as expressed in the Training Package and the AQTF 2010. The Assessment Guidelines must be followed to ensure the integrity of assessment leading to nationally recognised qualifications.

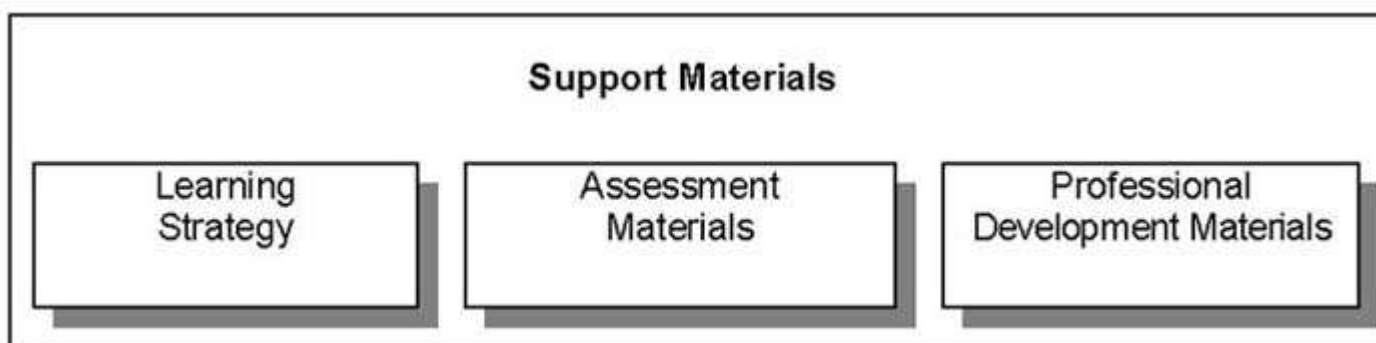
Qualifications Framework

Each Training Package provides details of those units of competency that must be achieved to award AQF qualifications. The rules around which units of competency can be combined to make up a valid AQF qualification in the Training Package are referred to as the "packaging rules". The packaging rules must be followed to ensure the integrity of nationally recognised qualifications issued.

Training Package Support Materials

The endorsed components of Training Packages are complemented and supported by optional support materials that provide for choice in the design of training and assessment to meet the needs of industry and learners.

Training Package support materials can relate to single or multiple units of competency, an industry sector, a qualification or the whole Training Package. They tend to fall into one or more of the categories illustrated below.



Training Package support materials are produced "by a range of stakeholders such as RTOs, individual trainers and assessors, private and commercial developers and Government agencies.

Training Package, Qualification and Unit of Competency Codes

There are agreed conventions for the national codes used for Training Packages and their components. Always use the correct codes, exactly as they appear in the Training Package, **and with the code always before the title.**

Training Package Codes

Each Training Package has a unique five-character national code assigned when the Training Package is endorsed, for example FDF10. The first three characters are letters identifying the Training Package industry coverage and the last two characters are numbers identifying the year of endorsement.

Qualification Codes

Within each Training Package, each qualification has a unique eight-character code, for example FDF10110. Qualification codes are developed as follows:

- the first three letters identify the Training Package;
- the first number identifies the qualification level (noting that, in the qualification titles themselves, arabic numbers are **not** used);
- the next two numbers identify the position in the sequence of the qualification at that level; and
- the last two numbers identify the year in which the qualification was endorsed. (Where qualifications are added after the initial Training Package endorsement, the last two numbers may differ from other Training Package qualifications as they identify the year in which those particular qualifications were endorsed.)

Unit of Competency Codes

Within each Training Package, each unit of competency has a unique code. Unit of competency codes are assigned when the Training Package is endorsed, or when new units of competency are added to an existing endorsed Training Package. Unit codes are developed as follows:

- a typical code is made up of 12 characters, normally a mixture of uppercase letters and numbers, as in FDFAU4001A;
- the first three characters signify the Training Package - FDF10 - in the above example and up to eight characters, relating to an industry sector, function or skill area, follow;

- the last character is always a letter and identifies the unit of competency version. An "A" at the end of the code indicates that this is the original unit of competency. "B", or another incremented version identifier means that minor changes have been made. Typically this would mean that wording has changed in the range statement or evidence guide, providing clearer intent; and
- where changes are made that alter the outcome, a new code is assigned and the title is changed.

Training Package, Qualification and Unit of Competency Titles

There are agreed conventions for titling Training Packages and their components. Always use the correct titles, exactly as they appear in the Training Package, and with the code always placed before the title.

Training Package Titles

The title of each endorsed Training Package is unique and relates the Training Packages broad industry coverage.

Qualification Titles

The title of each endorsed Training Package qualification is unique. Qualification titles use the following sequence:

- first, the qualification is identified as either Certificate I, Certificate II, Certificate III, Certificate IV, Diploma, Advanced Diploma, Vocational Graduate Certificate, or Vocational Graduate Diploma;
- this is followed by the words "in" for Certificates I to IV, and "of" for Diploma, Advanced Diploma, Vocational Graduate Certificate and Vocational Graduate Diploma;
- then, the industry descriptor, for example Telecommunications; and
- then, if applicable, the occupational or functional stream in brackets, for example (Computer Systems).

For example: FDF10110 Certificate I in Food Processing

Unit of Competency Titles

Each unit of competency title is unique. Unit of competency titles describe the competency outcome concisely, and are written in sentence case.

For example: FDFAU4001A Assess compliance with food safety programs

Introduction to the FDF10 Version 2 Food Processing Training Package

The 'food processing industry' covered by the FDF10v2 Food Processing Training Package includes a diverse range of sectors engaged in the production of human and animal food, pharmaceuticals and beverages. Together they form Australia's largest manufacturing industry with total sales of over \$100 billion and consistently account for more than 21 per cent of manufacturing industry employment.

Food Processing enterprises span from micro operations to large-scale manufacturing plants and are established across metropolitan and rural Australia. In 2010 the industry involved over 224,000 employees, 40 per cent of which are located in non-metropolitan areas. Over 1,900 wineries and 7,950 vineyards add to this picture, with the pharmaceutical sector employing approximately 14,000 workers and turning over \$8.8 billion a year.

The wine industry in Australia is very diverse covering many regions and enterprises ranging from small family companies to operations conducted by large multi-national businesses. According to the Wine Australia website there are approximately 2,500 wine companies with about 157,000 hectares under vine. The total grape crush in 2010 was 1.603 million tonnes. Wine is third on the list of Australian farm exports after wheat and beef/veal.

Job pathways in the industry typically start at entry level operator or support functions, through a wide application of operator and senior production positions which include specialist technical expertise and supervisory roles. Experienced workers may continue their development to specialist food science and technology outcomes or managerial positions.

Sectors covered by the Training Package include:

- Baking (including large scale production of cakes, pastry, bread, biscuits and plant baking)
- Beverages (including juices, soft drinks, cordials, aerated and still waters, energy drinks and other modified beverages such as vitamin and antioxidant beverages, coffee, tea and ice)
- Confectionery
- Dairy processing
- Egg processing
- Grain processing (including stock feed, animal feeds, milling wheat, barley, oats and flour milling)
- Fruit and vegetable
- Grocery products and supplies (including honey, jams, spreads, sauces, dressings, condiments, spices, edible oils and fats and pasta)
- Pharmaceutical manufacturing
- Plant baking
- Poultry
- Retail baking
- Sales
- Wine

History of the Food Processing Training Package

The initial food processing industry Training Package, FDF98, was developed in 1998 under the auspices of the National Food Industry Training Council and funded by the Australian National Training Authority (ANTA).

FDF98 aimed to improve the domestic and international competitiveness, productivity, and profitability of the industry by strengthening the competence of the workforce. It incorporated a wide range of industry sectors and offered training pathways across 18 direct entry qualifications.

In 2003 the Training Package underwent a review with significant updates made to the organisation of units, and expansion of options into more technical outcomes and qualifications at the Certificate IV and Diploma levels.

In mid-2008 AgriFood Skills Australia held initial consultations to determine the major issues and experiences with delivery of the FDF03 Food Processing Training Package. The initial consultations included State Training Authorities, State ITABs, major employer organisations and unions and major RTOs. These consultations indicated dissatisfaction with the complexity of the FDF03 qualification packaging rules and a desire to improve the overall layout of the Training Package. There was general satisfaction with the coverage of skills and sectors with recognition that some new units were needed especially at the AQF III level for senior operators.

Overall supervision of the Project has been the responsibility of the AgriFood Skills Australia Food Standing Committee.

FDF10 Version 1 incorporated changes to the presentation of units and qualifications and addition of content, in order to comply with current Training Package guidelines and improve the Training Package layout and outcomes. Further changes were made to broaden and update the scope of coverage through new and updated units.

In 2010/11 further work was conducted on the FDF Food Processing Training Package as part of AgriFood Skills Australia's Continuous Improvement Program, which resulted in higher level units and qualifications in food science and technology and advanced baking, revised units of competency in cheesemaking, and revised units of competency and qualifications in wine industry operations. This work also resulted in an amendment to the Certificate I and Certificate II in Food Processing qualifications. These components are included as part of the FDF10 Version 2 submission.

Some qualifications and units of competency currently endorsed as part of FDF03 were not covered by the submission. These qualifications are being reviewed and will be covered in a later submission planned for late 2011. The later submission will cover reviewed food safety auditing units and qualifications, and new units in flour milling, malting and brewing.

Code	Qualification	Comment
FDF41007	Certificate IV in Food Processing (Food Safety Auditing)	The commencement of the review of the Food Safety Auditing

		qualifications as well as the review of the Food Safety units was delayed to a review by Food Safety Authorities of the JASANZ Food Standards code. This review has now been completed and a review of these qualifications and units of competency has commenced.
FDF51007	Diploma of Food Processing (Diploma of Food Safety Auditing)	As above

Code Changes

For the FDF10 Version 2 Training Package the units are coded according to the Training Package Development Handbook policy and use the following form – FDFCATxyzA where

FDF is the Training Package identifier

CAT is the industry sector

x represents the initial AQF alignment of the unit in a qualification

yz is the unit number and

A is the unit version identifier

Units of competency in the FDF10 Version 2 Food Processing Training Package have been allocated to unit categories. They are:

AU	Food safety auditing
BK	Baking - biscuits / cakes / pastry
BP	Bottling and packaging (wine industry)
BV	Beverages - aerated waters/coffee/ice
CD	Cellar door (wine industry)
CEL	Cellar operations (wine industry)
CH	Cheesemaking
CON	Confectionary
DP	Dairy processing

FS	Food Safety
FST	Food science and technology
FV	Fruit and vegetable
GR	Grain processing – stock feed, flour milling, grain processing
GPS	Grocery products and supplies - edible oils and fats/honey
LAB	Laboratory (wine industry)
OHS	Occupational Health & Safety
OP	Cross sector operational skills
PB	Plant baking
PH	Pharmaceutical & complimentary
PO	Poultry
PPL	Cross sector skills targeting people, planning and logistics – information management, people management/work relationships, process improvement
RB	Retail baking
TEC	Technical
WGG	Wine grape growing (wine industry)
WIN	Wine industry induction (wine industry)

Qualifications Framework

What is the Australian Qualifications Framework?

A brief overview of the Australian Qualifications Framework (AQF) follows. For a full explanation of the AQF, see the AQF Implementation Handbook.

http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf

The AQF provides a comprehensive, nationally consistent framework for all qualifications in post-compulsory education and training in Australia. In the vocational education and training (VET) sector it assists national consistency for all trainees, learners, employers and providers by enabling national recognition of qualifications and Statements of Attainment.

Training Package qualifications in the VET sector must comply with the titles and guidelines of the AQF. Endorsed Training Packages provide a unique title for each AQF qualification which must always be reproduced accurately.

Qualifications

Training Packages can incorporate the following eight AQF qualifications.

- Certificate I in ...
- Certificate II in ...
- Certificate III in ...
- Certificate IV in ...
- Diploma of ...
- Advanced Diploma of ...
- Vocational Graduate Certificate of ...
- Vocational Graduate Diploma of ...

Graduate Certificates and Graduate Diplomas can also be awarded in the vocational education and training sector under certain conditions see the *AQF Implementation Handbook* for details.

On completion of the requirements defined in the Training Package, a Registered Training Organisation (RTO) may issue a nationally recognised AQF qualification. Issuance of AQF qualifications must comply with the advice provided in the *AQF Implementation Handbook* and the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Statement of Attainment

A Statement of Attainment is issued by a Registered Training Organisation when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). Issuance of Statements of Attainment must comply with the advice provided in the current *AQF Implementation Handbook* and the *AQTF 2010 Essential Standards for Initial and Continuing Registration*.

Under the AQTF 2010, RTOs must recognise the achievement of competencies as recorded on a qualification testamur or Statement of Attainment issued by other RTOs. Given this, recognised competencies can progressively build towards a full AQF qualification.

AQF Guidelines and Learning Outcomes

The *AQF Implementation Handbook* provides a comprehensive guideline for each AQF qualification. A summary of the learning outcome characteristics and their distinguishing features for each VET related AQF qualification is provided below.

Certificate I

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform a defined range of activities most of which may be routine and predictable.

Applications may include a variety of employment related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. They may also include participation in a team or work group.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate knowledge by recall in a narrow range of areas;
- demonstrate basic practical skills, such as the use of relevant tools;
- perform a sequence of routine tasks given clear direction
- receive and pass on messages/information.

Certificate II

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and skills would prepare a person to perform in a range of varied activities or knowledge application where there is a clearly defined range of contexts in which the choice of actions required is usually clear and there is limited complexity in the range of operations to be applied.

Performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes.

Applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate basic operational knowledge in a moderate range of areas;
- apply a defined range of skills;
- apply known solutions to a limited range of predictable problems;
- perform a range of tasks where choice between a limited range of options is required;
- assess and record information from varied sources;
- take limited responsibility for own outputs in work and learning.

Certificate III

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover selecting, adapting and transferring skills and knowledge to new environments and providing technical advice and some leadership in resolution of specified problems. This would be applied across a range of roles in a variety of contexts with some complexity in the extent and choice of options available.

Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints.

Applications may involve some responsibility for others. Participation in teams including group or team co-ordination may be involved.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate some relevant theoretical knowledge
- apply a range of well-developed skills
- apply known solutions to a variety of predictable problems
- perform processes that require a range of well-developed skills where some discretion and judgement is required
- interpret available information, using discretion and judgement
- take responsibility for own outputs in work and learning
- take limited responsibility for the output of others.

Certificate IV

Characteristics of Learning Outcomes

Breadth, depth and complexity of knowledge and competencies would cover a broad range of varied activities or application in a wider variety of contexts most of which are complex and non-routine. Leadership and guidance are involved when organising activities of self and others as well as contributing to technical solutions of a non-routine or contingency nature.

Performance of a broad range of skilled applications including the requirement to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills. Applications involve responsibility for, and limited organisation of, others.

Distinguishing Features of Learning Outcomes

Do the competencies enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating some theoretical concepts
- apply solutions to a defined range of unpredictable problems
- identify and apply skill and knowledge areas to a wide variety of contexts, with depth in some areas
- identify, analyse and evaluate information from a variety of sources
- take responsibility for own outputs in relation to specified quality standards
- take limited responsibility for the quantity and quality of the output of others.

Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and co-ordination.

The self directed application of knowledge and skills, with substantial depth in some areas where judgment is required in planning and selecting appropriate equipment, services and techniques for self and others.

Applications involve participation in development of strategic initiatives as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team co-ordination may be involved.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of a broad knowledge base incorporating theoretical concepts, with substantial depth in some areas
- analyse and plan approaches to technical problems or management requirements
- transfer and apply theoretical concepts and/or technical or creative skills to a range of situations
- evaluate information, using it to forecast for planning or research purposes
- take responsibility for own outputs in relation to broad quantity and quality parameters
- take some responsibility for the achievement of group outcomes.

Advanced Diploma

Characteristics of Learning Outcomes

Breadth, depth and complexity involving analysis, design, planning, execution and evaluation across a range of technical and/or management functions including development of new criteria or applications or knowledge or procedures.

The application of a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts in relation to either varied or highly specific functions. Contribution to the development of a broad plan, budget or strategy is involved and accountability and responsibility for self and others in achieving the outcomes is involved.

Applications involve significant judgement in planning, design, technical or leadership/guidance functions related to products, services, operations or procedures.

The degree of emphasis on breadth as against depth of knowledge and skills may vary between qualifications granted at this level.

Distinguishing Features of Learning Outcomes

Do the competencies or learning outcomes enable an individual with this qualification to:

- demonstrate understanding of specialised knowledge with depth in some areas
- analyse, diagnose, design and execute judgements across a broad range of technical or management functions
- generate ideas through the analysis of information and concepts at an abstract level
- demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills
- demonstrate accountability for personal outputs within broad parameters
- demonstrate accountability for personal and group outcomes within broad parameters.

Vocational Graduate Certificate

Characteristics of competencies or learning outcomes

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth and complexity involving the initiation, analysis, design, planning, execution and evaluation of technical and management functions in highly varied and highly specialised contexts.
- Applications involve making significant, high-level, independent judgements in major broad or planning, design, operational, technical and management functions in highly varied and specialised contexts. They may include responsibility and broad ranging accountability for the structure, management and output of the work or functions of others.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Distinguishing features of learning outcomes

- Demonstrate the self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major broad or technical and management functions in highly varied and highly specialised contexts.
- Generate and evaluate ideas through the analysis of information and concepts at an abstract level.
- Demonstrate a command of wide-ranging, highly specialised technical, creative or conceptual skills in complex contexts.
- Demonstrate responsibility and broad-ranging accountability for the structure, management and output of the work or functions of others.

Vocational Graduate Diploma

Characteristics of competencies or learning outcomes

- The self-directed development and achievement of broad and specialised areas of knowledge and skills, building on prior knowledge and skills.
- Substantial breadth, depth and complexity involving the initiation, analysis, design, planning, execution and evaluation of major functions, both broad and highly specialised, in highly varied and highly specialised contexts.
- Further specialisation within a systematic and coherent body of knowledge.
- Applications involve making high-level, fully independent, complex judgements in broad planning, design, operational, technical and management functions in highly varied and highly specialised contexts. They may include full responsibility and accountability for all aspects of work and functions of others, including planning, budgeting and strategy development.
- The degree of emphasis on breadth, as opposed to depth, of knowledge and skills may vary between qualifications granted at this level.

Distinguishing features of learning outcomes

- Demonstrate the self-directed development and achievement of broad and highly specialised areas of knowledge and skills, building on prior knowledge and skills.
- Initiate, analyse, design, plan, execute and evaluate major functions, both broad and within highly varied and highly specialised contexts.
- Generate and evaluate complex ideas through the analysis of information and concepts at an abstract level.
- Demonstrate an expert command of wide-ranging, highly specialised, technical, creative or conceptual skills in complex and highly specialised or varied contexts.
- Demonstrate full responsibility and accountability for personal outputs.
- Demonstrate full responsibility and accountability for all aspects of the work or functions of others, including planning, budgeting and strategy.
-

Qualification Pathways

Qualifications and Packaging Rules

There are 26 Qualifications in FDF10 Version 4. Refer to each individual Qualification for details of its Packaging Rules.

Qualification Pathways

The following pathways charts are provided to show the types of pathways into and from Qualifications that are possible with this Training Package. For more information about Qualifications and pathways contact AgriFood Skills Australia.

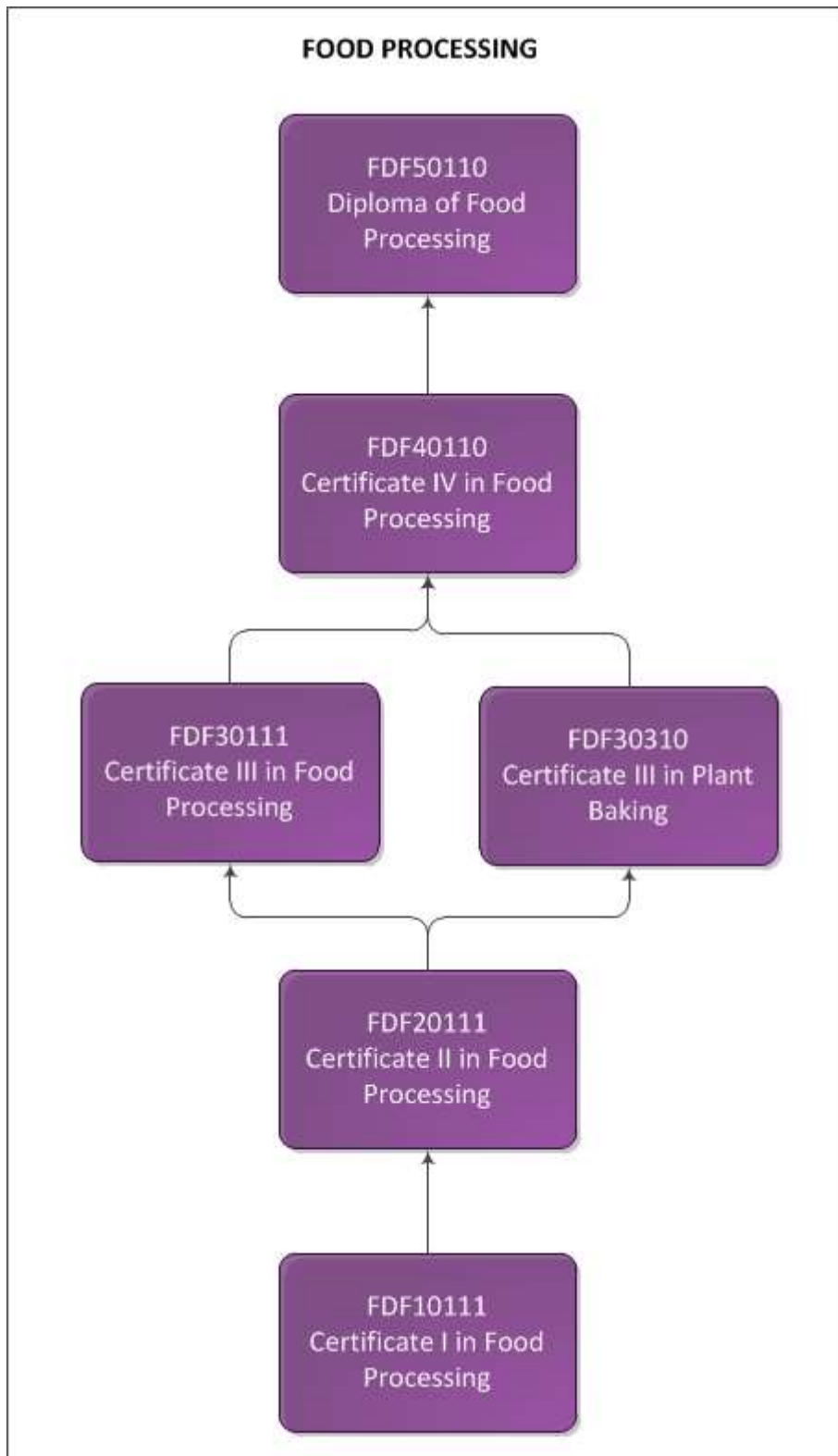
FDF10 Version 4 Qualification Pathways

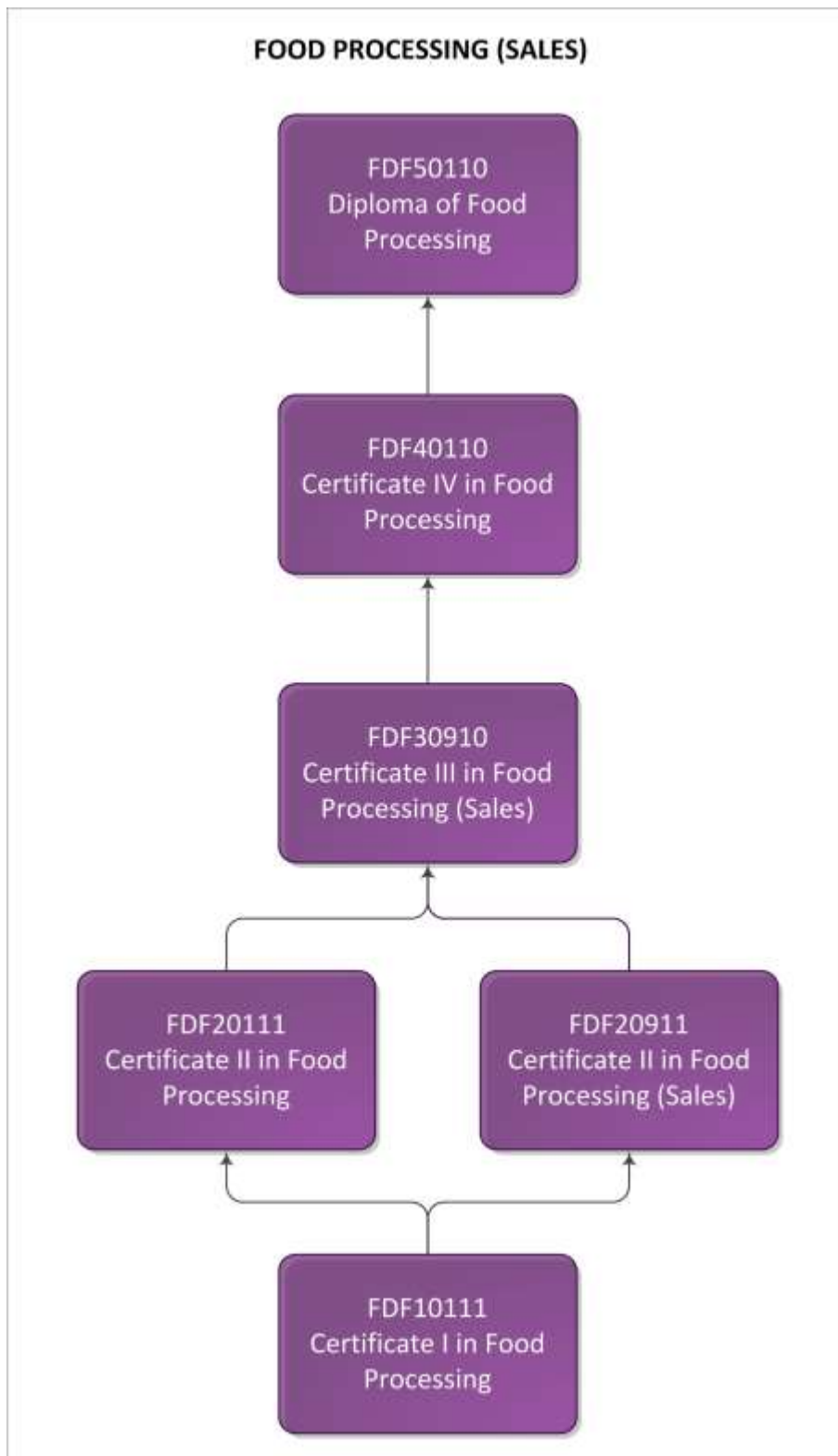
All Qualifications within the FDF10 Version 4 Food Processing Training Package can be accessed through direct entry. Packaging rules allow for key food processing operational units to be selected from lower levels, in order to ensure that all outcomes include fundamental skill and knowledge required by the food processing industry. In addition, recognition can be awarded for units achieved in lower level Qualifications, in order to facilitate a cumulative building of skills as the trainee moves from one level to another.

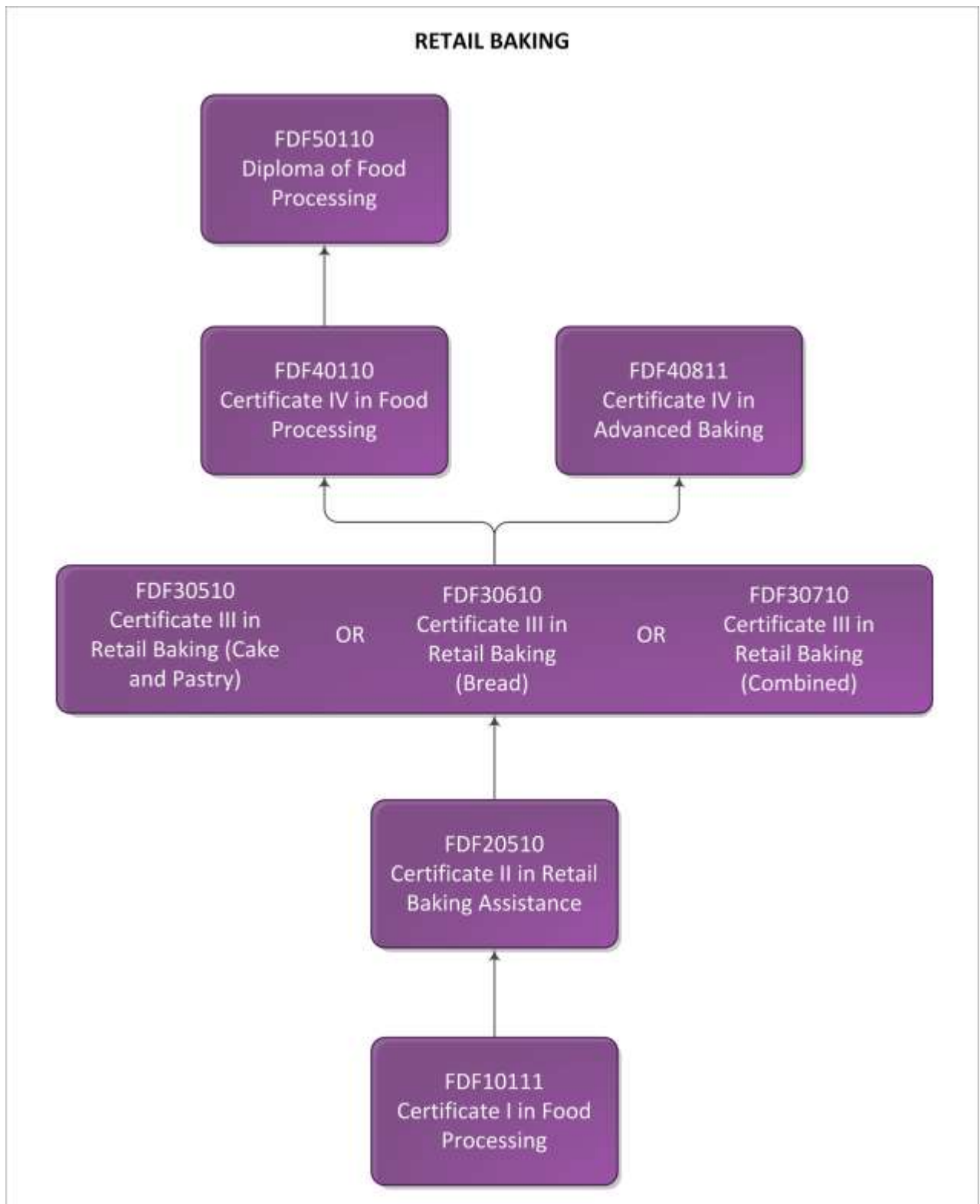
Many of the Qualifications access a common bank of elective units. This also provides maximum flexibility for those wanting to move from one area of specialisation to another with a minimum requirement for new specialist skills.

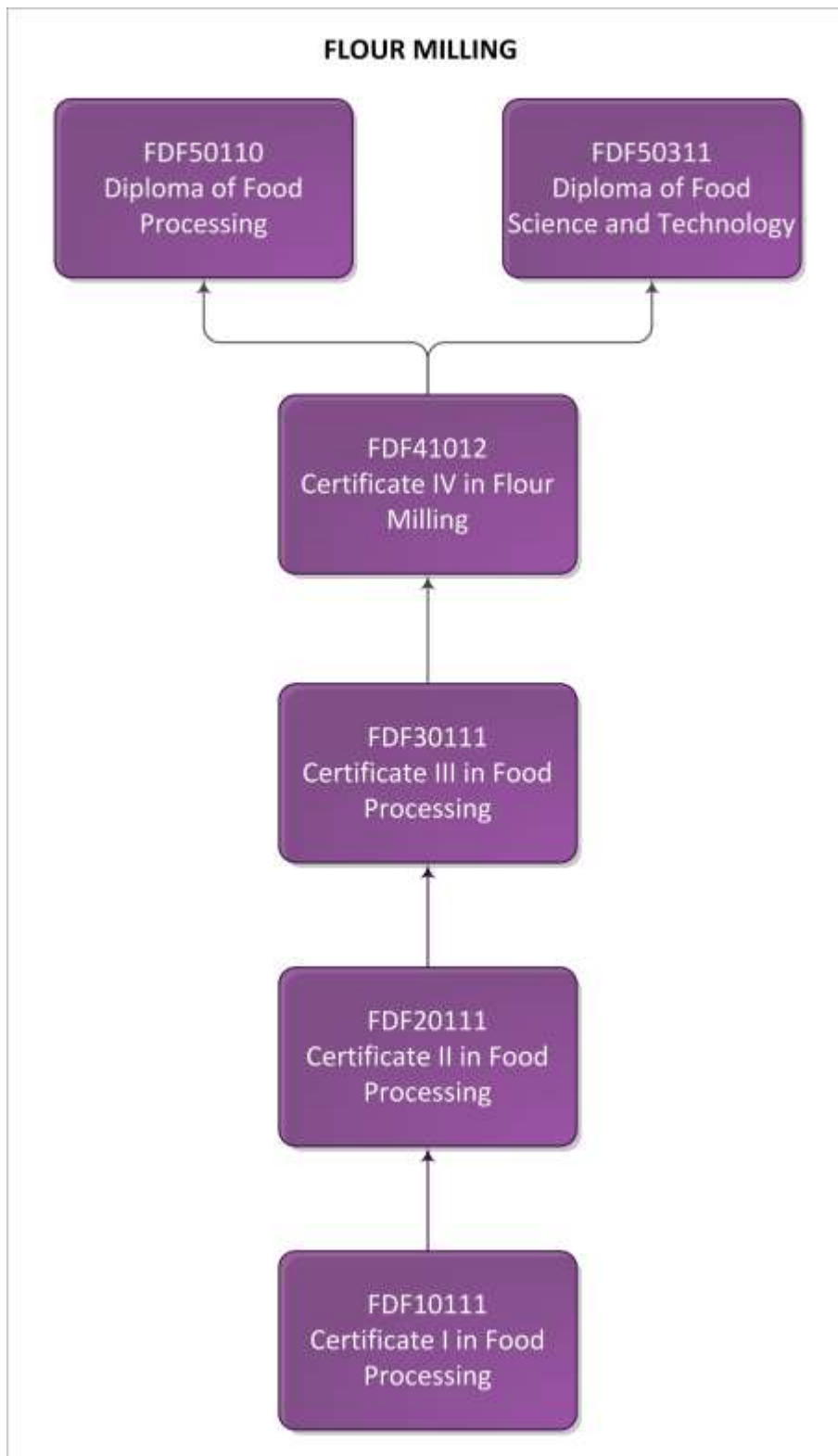
The units of competency in this Training Package may be attained in a number of ways including through:

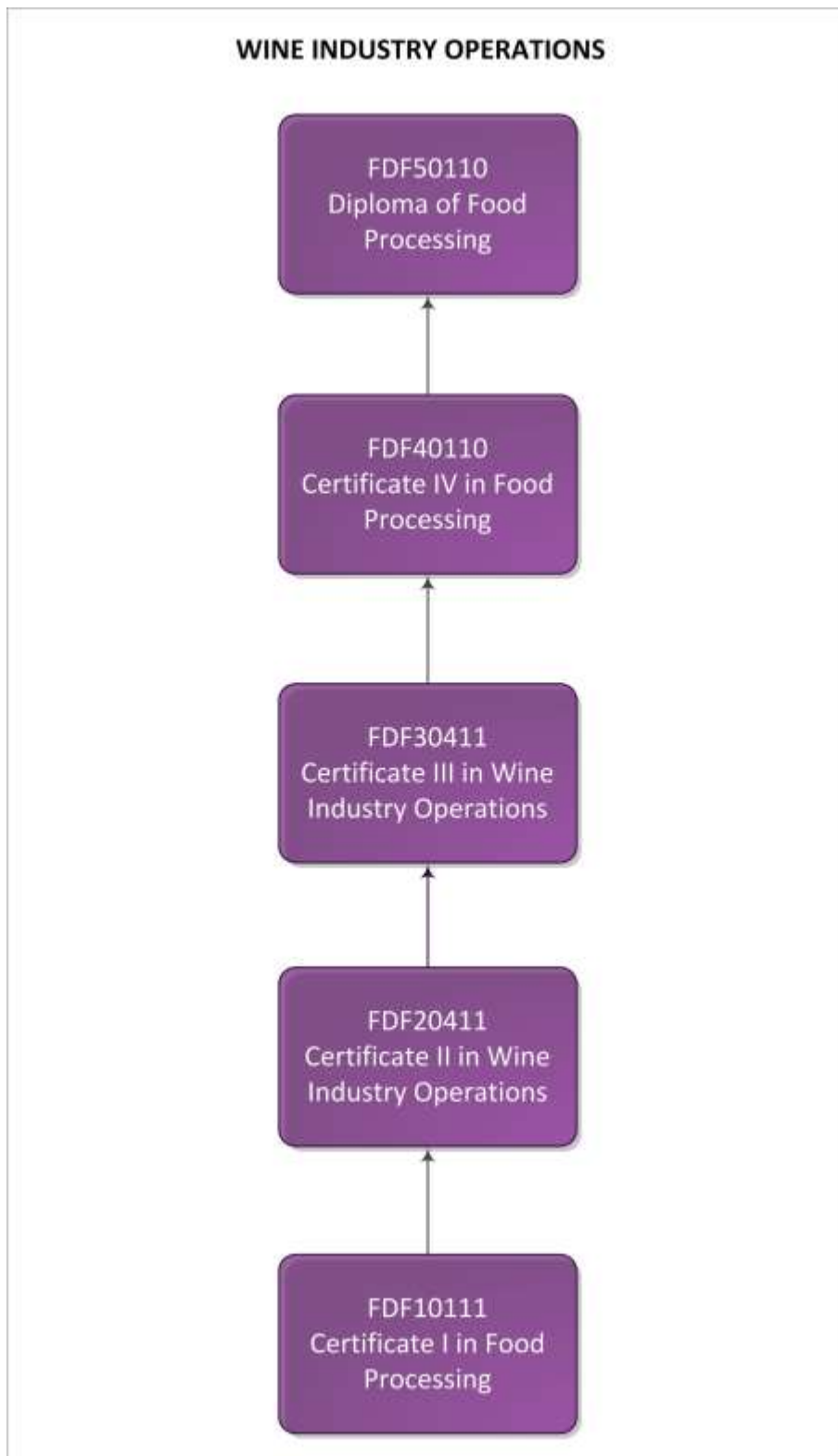
- formal or informal education and training
- experiences in the workplace
- general life experience
- any combination of the above.
- Assessment under this Training Package leading to an AQF Qualification or Statement of Attainment may follow a learning and assessment pathway, an assessment-only or recognition pathway, or a combination of the two.



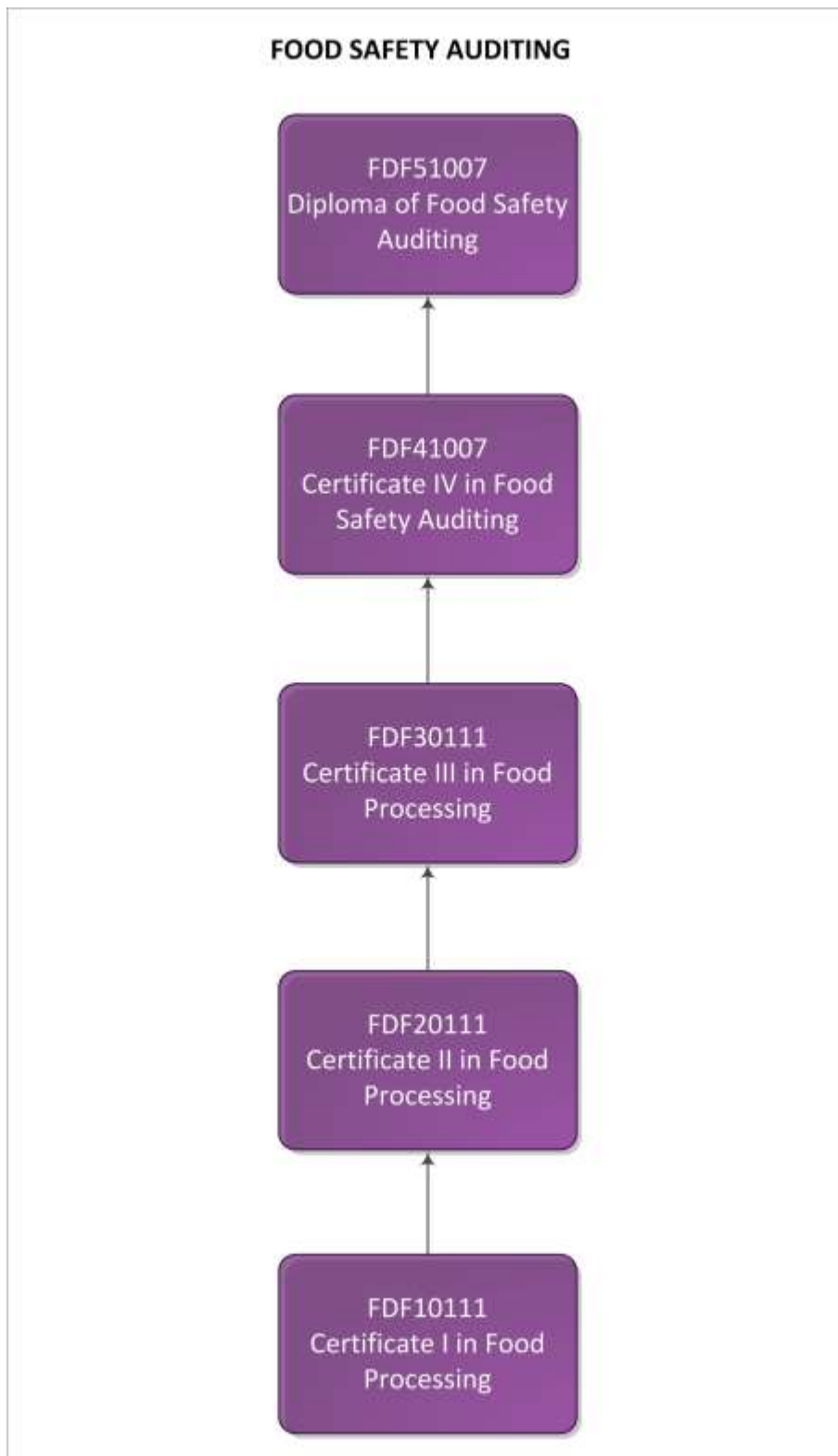


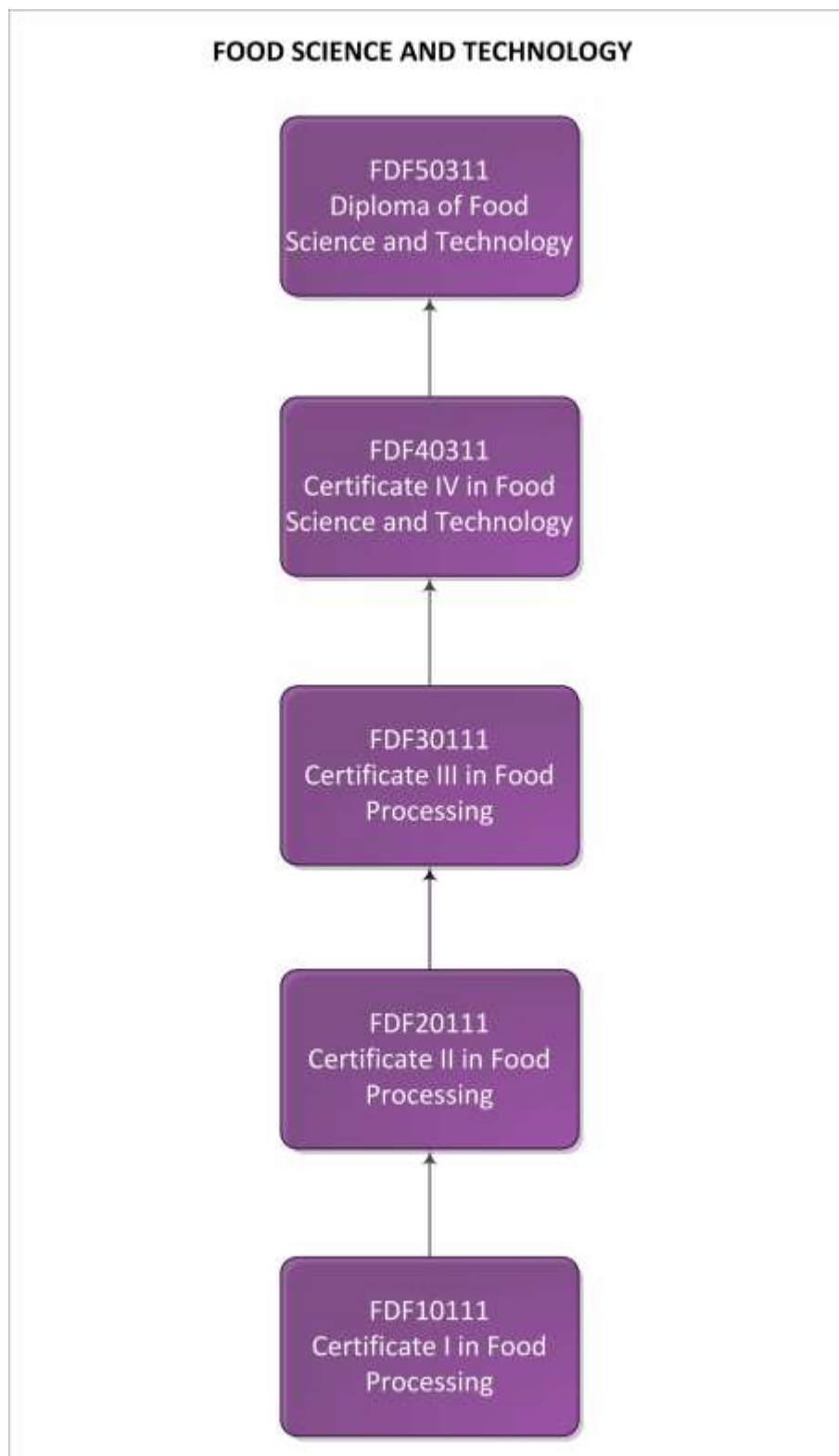


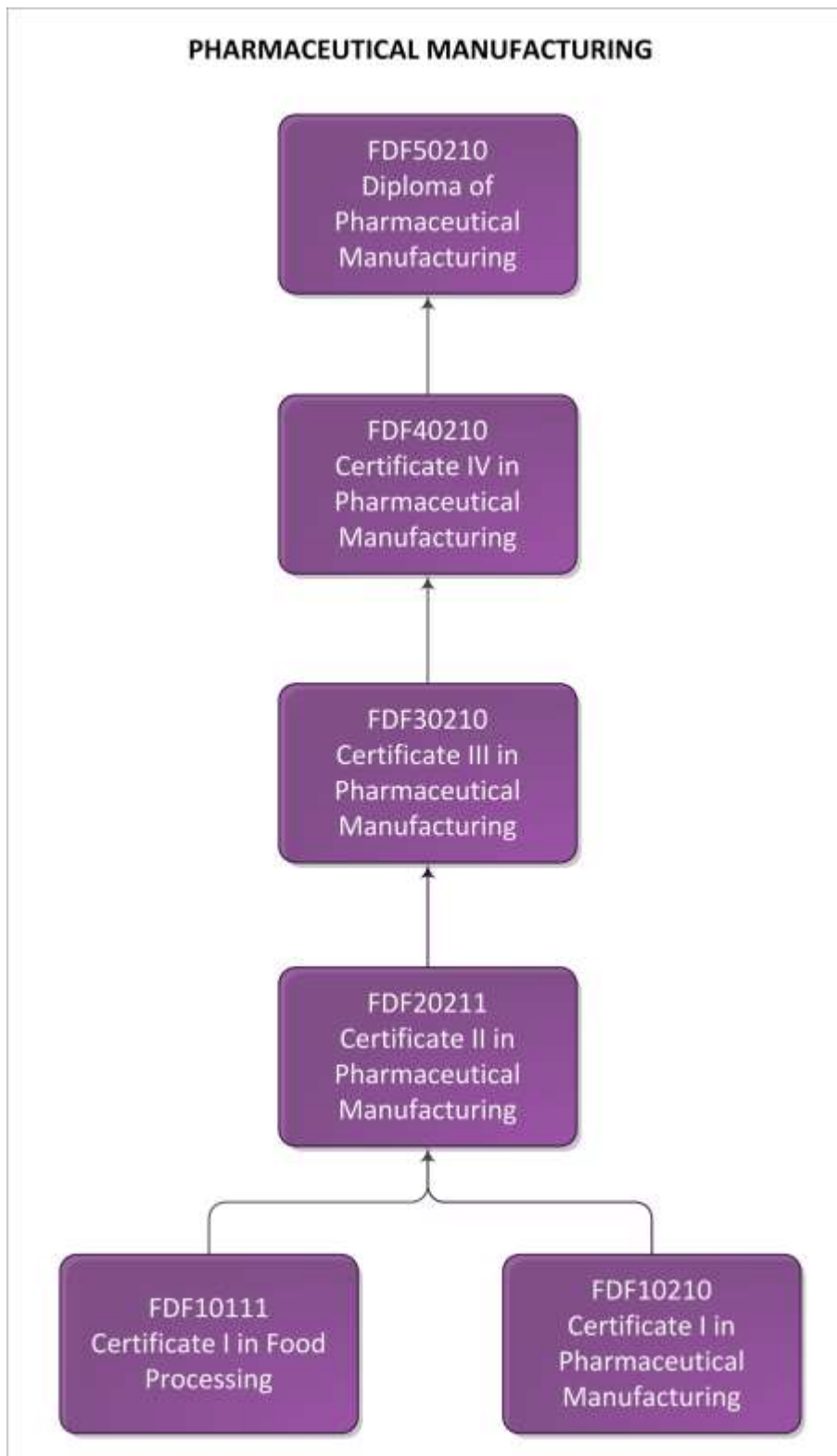












Australian apprenticeship arrangements

All Qualifications within the Training Package are suitable for Australian Apprenticeship pathways.

VET in schools delivery

These Qualifications have the potential to be used as a part of VET in Schools programs. This is conditional on local parties collaborating to agree on delivery, assessment and infrastructure arrangements.

Skill Sets in this Training Package

Skill Sets

Definition

Skill sets are defined as single units of competency, or combinations of units of competency from an endorsed Training Package, which link to a licence or regulatory requirement, or defined industry need.

Wording on Statements of Attainment

Skill sets are a way of publicly identifying logical groupings of units of competency which meet an identified need or industry outcome. Skill sets are not qualifications.

Where skill sets are identified in a Training Package, the Statement of Attainment can set out the competencies a person has achieved in a way that is consistent and clear for employers and others. This is done by including the wording "these competencies meet [insert skill set title or identified industry area] need" on the Statement of Attainment. This wording applies only to skill sets that are formally identified as such in the endorsed Training Package. See the 2010 edition of the AQF Implementation Handbook for advice on wording on Statements of Attainment.

http://www.aqf.edu.au/Portals/0/Documents/Handbook/AQF_Handbook_07.pdf

Skill Sets in this Training Package

There are twenty-four Skill Sets within the FDF10 Food Processing Training Package. These are:

- Cellar Door Sales Induction Skill Set
- Cellar Hand Induction Skill Set
- Chemical Handling Certification Skill Set
- Confined Space Skill Set
- Distillation Operations Skill Set
- Evaporator Station Operator Skill Set
- Food Safety Skill Set

Skill Sets in this Training Package

- Forklift Operations Skill Set
- Fugal Operator Skill Set
- Hand Pruning Induction Skill Set
- Irrigation Skill Set
- Loco Driver Skill Set
- Manual Handling Skill Set
- Mechanical Harvesting for Seasonal Workers Skill Set
- Platform Operator Skill Set
- Responsible Service of Alcohol Skill Set
- Risk Management Skill Set
- Seasonal Nursery Induction Skill Set
- Sugar Boiler Skill Set
- Trellis Management Skill Set
- Vintage Laboratory Operations Skill Set
- Warehouse Induction Skill Set
- Water Tender Skill Set
- Wine Evaluation Skill Set

Assessment Guidelines

Introduction

These Assessment Guidelines provide the endorsed framework for assessment of units of competency in this Training Package. They are designed to ensure that assessment is consistent with the *Australian Quality Training Framework (AQTF) Essential Standards for Initial and Continuing Registration*. Assessments against the units of competency in this Training Package must be carried out in accordance with these Assessment Guidelines.

Assessment System Overview

This section provides an overview of the requirements for assessment when using this Training Package, including a summary of the AQTF requirements; licensing and registration requirements; and assessment pathways.

Quality assessment underpins the credibility of the vocational education and training sector. The Assessment Guidelines of a Training Package are an important tool in supporting quality assessment.

Assessment within the National Skills Framework is the process of collecting evidence and making judgements about whether competency has been achieved to confirm whether an individual can perform to the standards expected in the workplace, as expressed in the relevant endorsed unit of competency.

Assessment must be carried out in accordance with the:

- benchmarks for assessment
- specific industry requirements
- principles of assessment
- rules of evidence
- assessment requirements set out in the AQTF

Benchmarks for Assessment

The endorsed units of competency in this Training Package are the benchmarks for assessment. As such, they provide the basis for nationally recognised Australian Qualifications Framework (AQF) qualifications and Statements of Attainment issued by Registered Training Organisations (RTOs).

Principles of Assessment

All assessments carried out by RTOs are required to demonstrate compliance with the principles of assessment:

- validity
- reliability
- flexibility
- fairness
- sufficiency

These principles must be addressed in the:

- design, establishment and management of the assessment system for this Training Package
- development of assessment tools, and
- the conduct of assessment.

Validity

Assessment is valid when the process is sound and assesses what it claims to assess. Validity requires that:

- (a) assessment against the units of competency must cover the broad range of skills and knowledge that are essential to competent performance
- (b) assessment of knowledge and skills must be integrated with their practical application
- (c) judgement of competence must be based on sufficient evidence (that is, evidence gathered on a number of occasions and in a range of contexts using different assessment methods). The specific evidence requirements of each unit of competency provide advice on sufficiency

Reliability

Reliability refers to the degree to which evidence presented for assessment is consistently interpreted and results in consistent assessment outcomes. Reliability requires the assessor to have the required competencies in assessment and relevant vocational competencies (or to assess in conjunction with someone who has the vocational competencies). It can only be achieved when assessors share a common interpretation of the assessment requirements of the unit(s) being assessed.

Flexibility

To be flexible, assessment should reflect the candidate's needs; provide for recognition of competencies no matter how, where or when they have been acquired; draw on a range of methods appropriate to the context, competency and the candidate; and support continuous competency development.

Fairness

Fairness in assessment requires consideration of the individual candidate's needs and characteristics, and any reasonable adjustments that need to be applied to take account of them. It requires clear communication between the assessor and the candidate to ensure that the candidate is fully informed about, understands and is able to participate in, the assessment process, and agrees that the process is appropriate. It also includes an opportunity for the person being assessed to challenge the result of the assessment and to be reassessed if necessary.

Sufficiency

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough *appropriate* evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency. Sufficiency is also one of the rules of evidence.

Rules of Evidence

The rules of evidence guide the collection of evidence that address the principles of validity and reliability, guiding the collection of evidence to ensure that it is valid, sufficient, current and authentic.

Valid

Valid evidence must relate directly to the requirements of the unit of competency. In ensuring evidence is valid, assessors must ensure that the evidence collected supports demonstration of the outcomes and performance requirements of the unit of competency together with the knowledge and skills necessary for competent performance. Valid evidence must encapsulate the breadth and depth of the unit of competency, which will necessitate using a number of different assessment methods.

Sufficient

Sufficiency relates to the quality and quantity of evidence assessed. It requires collection of enough appropriate evidence to ensure that all aspects of competency have been satisfied and that competency can be demonstrated repeatedly. Supplementary sources of evidence may be necessary. The specific evidence requirements of each unit of competency provide advice on sufficiency.

Current

In assessment, currency relates to the age of the evidence presented by a candidate to demonstrate that they are still competent. Competency requires demonstration of current performance, so the evidence collected must be from either the present or the very recent past.

Authentic

To accept evidence as authentic, an assessor must be assured that the evidence presented for assessment is the candidate's own work.

Assessment Requirements of the Australian Quality Training Framework

Assessment leading to nationally recognised AQF qualifications and Statements of Attainment in the vocational education and training sector must meet the requirements of the AQTF as expressed in the AQTF 2010 *Essential Standards for Registration*.

The AQTF 2010 *Essential Standards for Initial and Continuing Registration* can be downloaded from <www.training.com.au>.

The following points summarise the assessment requirements.

Registration of Training Organisations

Assessment must be conducted by, or on behalf of, an RTO formally registered by a State or Territory Registering Body in accordance with the AQTF. The RTO must have the specific units of competency and/or AQF qualifications on its scope of registration.

Quality Training and Assessment

Each RTO must provide quality training and assessment across all its operations. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*, Standard 1.

Assessor Competency Requirements

Each person involved in training and assessment must be competent for the functions they perform. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*, Standard 1 for assessor (and trainer) competency requirements. See also the AQTF 2010 *Users' Guide to the Essential Standards for Registration – Appendix 2*.

Assessment Requirements

The RTOs assessments, including RPL, must meet the requirements of the relevant endorsed Training Package. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Assessment Strategies

Each RTO must have strategies for training and assessment that meet the requirements of the relevant Training Package or accredited course and are developed in consultation with industry stakeholders. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

National Recognition

Each RTO must recognise the AQF qualifications and Statements of Attainment issued by any other RTO. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Access and Equity and Client Outcomes

Each RTO must adhere to the principles of access and equity and maximise outcomes for its clients. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Monitoring Assessments

Training and/or assessment provided on behalf of the RTO must be monitored to ensure that it is in accordance with all aspects of the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Recording Assessment Outcomes

Each RTO must manage records to ensure their accuracy and integrity. See the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

Issuing AQF qualifications and Statement of Attainment

Each RTO must issue AQF qualifications and Statements of Attainment that meet the requirements of the current *AQF Implementation Handbook* and the endorsed Training Packages within the scope of its registration. An AQF qualification is issued once the full requirements for a qualification, as specified in the nationally endorsed Training Package are met. A Statement of Attainment is issued when an individual has completed one or more units of competency from nationally recognised qualification(s)/courses(s). See the AQTF and the edition of the *AQF Implementation Handbook*—available on the AQF Council website <www.aqf.edu.au>

Licensing/Registration Requirements

This section provides information on licensing/registration requirements for this Training Package, with the following important disclaimer.

Licensing and registration requirements that apply to specific industries, and vocational education and training, vary between each State and Territory, and can regularly change. The developers of this Training Package consider that the licensing/registration requirements described in this section apply to RTOs, assessors or candidates with respect to this Training Package. While reasonable care has been taken in its preparation, the developers of this Training Package and the Department cannot guarantee that the list is definitive or accurate at the time of reading; the information in this section is provided in good faith on that basis.

Contact the relevant State or Territory Department(s) to check if the licensing/registration requirements described below still apply, and to check if there are any others with which you must comply. For further information contact AgriFood Skills Australia at www.agrifoodskills.net.au.

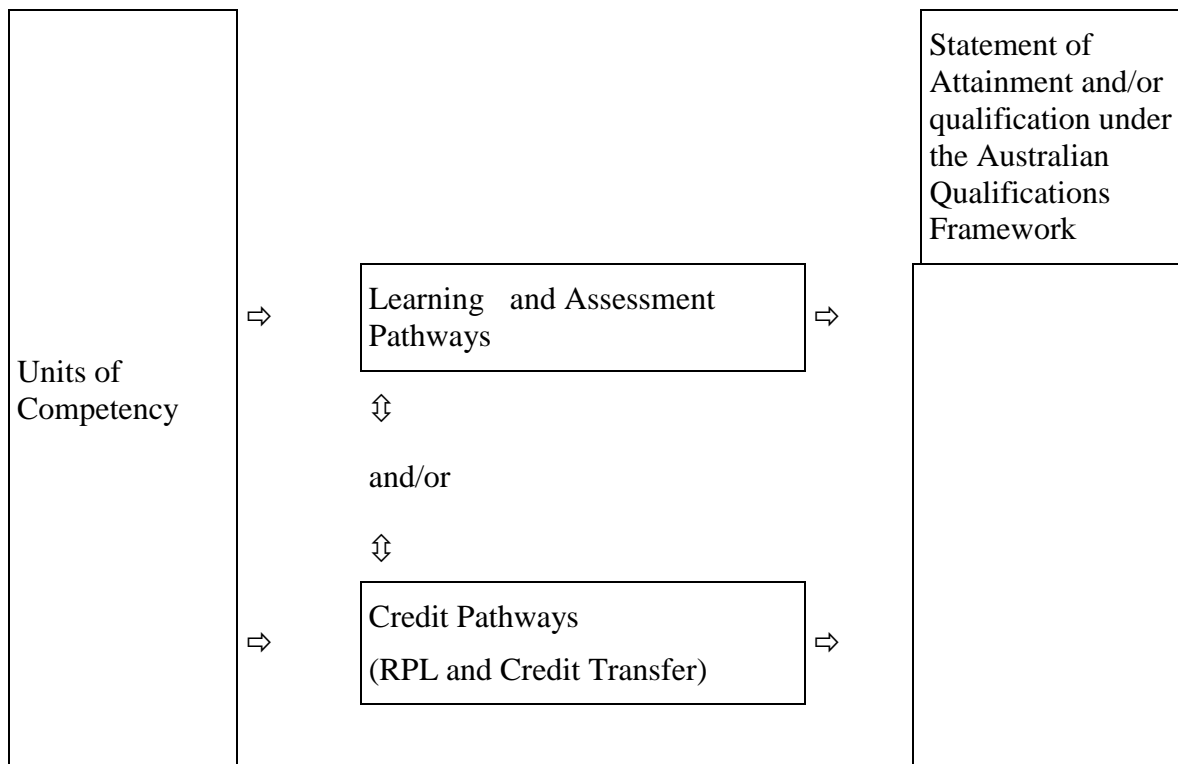
There are no qualifications in FDF10v3 linked to occupational licensing. However some FDF10v3 units are designed to support food safety legislation and regulations. These apply in every State and Territory with premises and enterprises being licensed. The food safety licensing applies to both food production (covered by FDF10v3) and food serving (can be covered by FDF10v3 as well as other training packages). Completion of relevant FDF10v3 food safety units can generally be used as evidence of appropriate training of staff in food safety. In a similar manner food safety auditing units of competency can contribute recognition by regulators as a food safety auditor in conjunction with other requirements such as relevant industry experience.

Pathways

The competencies in this Training Package may be attained in a number of ways including through:

- formal or informal education and training
- experiences in the workplace
- general life experience, and/or
- any combination of the above.

Assessment under this Training Package leading to an AQF qualification or Statement of Attainment may follow a learning and assessment pathway, or a recognition pathway, or a combination of the two as illustrated in the following diagram.



Each of these assessment pathways leads to full recognition of competencies held – the critical issue is that the candidate is competent, not how the competency was acquired. Assessment, by any pathway, must comply with the assessment requirements set out in the Assessment Guidelines of the Training Package, the AQTF and, where relevant, the Australian Qualifications Framework.

Learning and Assessment Pathways

Usually, learning and assessment are integrated, with evidence being collected and feedback provided to the candidate at anytime throughout the learning and assessment process. Learning and assessment pathways may include structured programs in a variety of contexts using a range of strategies to meet different learner needs. Structured learning and assessment programs could be: group-based, work-based, project-based, self-paced, action learning-based; conducted by distance or e-learning; and/or involve practice and experience in the workplace.

Learning and assessment pathways to suit Australian Apprenticeships have a mix of formal structured training and structured workplace experience with formative assessment activities through which candidates can acquire and demonstrate skills and knowledge from the relevant units of competency.

Credit Pathways

Credit is the value assigned for the recognition of equivalence in content between different types of learning and/or qualifications which reduces the volume of learning required to achieve a qualification.

Credit arrangements must be offered by all RTOs that offer Training Package qualifications. Each RTO must have a systematic institutional approach with clear, accessible and transparent policies and procedures.

Competencies already held by individuals can be formally assessed against the units of competency in this Training Package, and should be recognised regardless of how, when or where they were acquired, provided that the learning is relevant to the unit of competency outcomes.

Recognition of Prior Learning

Recognition of Prior Learning (RPL) is an assessment process which determines the credit outcomes of an individual application for credit.

The availability of Recognition of Prior Learning (RPL) provides all potential learners with access to credit opportunities.

The recognition of prior learning pathway is appropriate for candidates who have previously attained skills and knowledge and who, when enrolling in qualifications, seek to shorten the duration of their training and either continue or commence working. This may include the following groups of people:

- existing workers;
- individuals with overseas qualifications;
- recent migrants with established work histories;

- people returning to the workplace; and
- people with disabilities or injuries requiring a change in career.
-

As with all assessment, RPL assessment should be undertaken by academic or teaching staff with expertise in the subject, content of skills area, as well as knowledge of and expertise in RPL assessment policies and procedures.

Assessment methods used for RPL should provide a range of ways for individuals to demonstrate that they have met the required outcomes and can be granted credit. These might include:

- questioning (oral or written)
- consideration of a portfolio and review of contents
- consideration of third party reports and/or other documentation such as documentation such as articles, reports, project material, papers, testimonials or other products prepared by the RPL applicant that relate to the learning outcomes of the relevant qualification component
- mapping of learning outcomes from prior formal or non-formal learning to the relevant qualification components
- observation of performance, and
- participation in structured assessment activities the individual would normally be required to undertake if they were enrolled in the qualification component/s.

In a Recognition of Prior Learning (RPL) pathway, the candidate provides current, quality evidence of their competency against the relevant unit of competency. This process may be directed by the candidate and verified by the assessor. Where the outcomes of this process indicate that the candidate is competent, structured training is not required. The RPL requirements of the AQTF must be met.

As with all assessment, the assessor must be confident that the evidence indicates that the candidate is currently competent against the endorsed unit of competency. This evidence may take a variety of forms and might include certification, references from past employers, testimonials from clients, work samples and/or observation of the candidate. The onus is on candidates to provide sufficient evidence to satisfy assessors that they currently hold the relevant competencies. In judging evidence, the assessor must ensure that the evidence of prior learning is:

- authentic (the candidate's own work);
- valid (directly related to the current version of the relevant endorsed unit of competency);
- reliable (shows that the candidate consistently meets the endorsed unit of competency);
- current (reflects the candidate's current capacity to perform the aspect of the work covered by the endorsed unit of competency); and
- sufficient (covers the full range of elements in the relevant unit of competency and addresses the four dimensions of competency, namely task skills, task management skills, contingency management skills, and job/role environment skills).

Credit Transfer

Credit transfer is a process which provides learners with agreed and consistent credit outcomes based on equivalences in content between matched qualifications.

This process involves education institutions:

- mapping, comparing and evaluating the extent to which the defined *learning outcomes and assessment requirements* of the individual *components of one qualification* are equivalent to the learning outcomes and assessment requirements of the individual components of another qualification
- making an educational judgment of the credit outcomes to be assigned between the matched components of the two qualifications
- setting out the agreed credit outcomes in a documented arrangement or agreement, and
- publicising the arrangement/agreement and credit available.

Combination of Pathways

Credit may be awarded on the basis of a combination of credit transfer plus an individual RPL assessment for additional learning. Once credit has been awarded on the basis of RPL, subsequent credit transfer based on these learning outcomes should not include revisiting the RPL assessment but should be based on credit transfer or articulation or other arrangements between providers.

Where candidates for assessment have gained competencies through work and life experience and gaps in their competence are identified, or where they require training in new areas, a combination of pathways may be appropriate.

In such situations, the candidate may undertake an initial assessment to determine their current competency. Once current competency is identified, a structured learning and assessment program ensures that the candidate acquires the required additional competencies identified as gaps.

Assessor Requirements

This section identifies the specific requirements on the vocational competence and experience for assessors, to ensure that they meet the needs of industry and their obligations under AQTF, and clarifies how others may contribute to the assessment process where one person alone does not hold all the required competencies.

Assessor Competencies

The AQTF specifies mandatory competency requirements for assessors. For information, Element 1.4 from the AQTF 2007 *Essential Standards for Registration* follows:

- 1.4 Training and assessment are conducted by trainers and assessors who:
- a) have the necessary training and assessment competencies as determined by the National Quality Council or its successors, and
 - b) have the relevant vocational competencies at least to the level being delivered or assessed, and
 - c) can demonstrate current industry skills directly relevant to the training/assessment being undertaken, and
 - d) continue to develop their Vocational Education and Training (VET) knowledge and

skills as well as their industry currency and trainer/assessor competence.

* See AQTF 2010 *Users' Guide to the Essential Standards for Registration* – Appendix 2

Designing Assessment Tools

This section provides an overview on the use and development of assessment tools.

Use of Assessment Tools

Assessment tools provide a means of collecting the evidence that assessors use in making judgements about whether candidates have achieved competency.

There is no set format or process for the design, production or development of assessment tools. Assessors may use prepared assessment tools, such as those specifically developed to support this Training Package, or they may develop their own.

Using Prepared Assessment Tools

If using prepared assessment tools, assessors should ensure these relate to the current version of the relevant unit of competency. The current unit of competency can be checked on the National Register <www.ntis.gov.au>.

Developing Assessment Tools

When developing their own assessment tools, assessors must ensure that the tools:

- are benchmarked against the relevant unit or units of competency;
- are reviewed as part of the validation of assessment strategies required under the AQTF; and
- meet the assessment requirements expressed in the AQTF 2010 *Essential Standards for Initial and Continuing Registration*.

A key reference for assessors developing assessment tools is TAE10 Training and Education Training Package.

Language, Literacy and Numeracy

The design of assessment tools must reflect the language, literacy and numeracy competencies required for the performance of a task in the workplace and not exceed these expectations.

Conducting Assessment

This section details the mandatory assessment requirements and provides information on equity in assessment including reasonable adjustment.

Mandatory Assessment Requirements

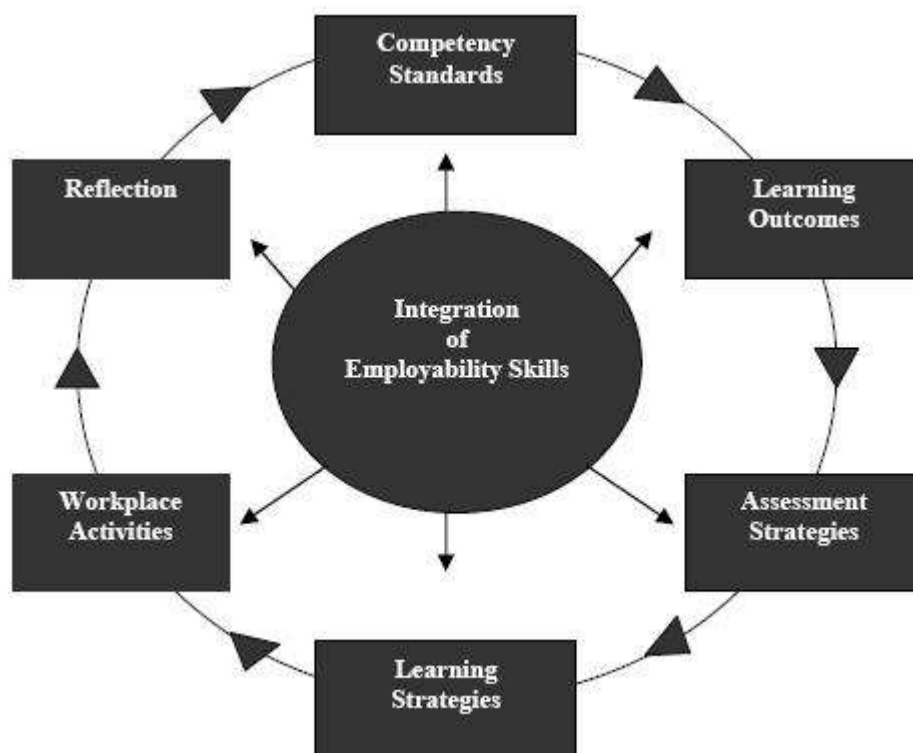
Assessments must meet the criteria set out in the AQTF 2010 *Essential Standards for Initial and Continuing Registration*. For information, the mandatory assessment requirements from Standard 1 from the AQTF 2010 *Essential Standards for Initial and Continuing Registration* are as follows:

1.5 Assessment, including Recognition of Prior Learning (RPL):

- a) meets the requirements of the relevant Training Package or accredited course
- b) is conducted in accordance with the principles of assessment and the rules of evidence
- c) meets workplace and, where relevant, regulatory requirements
- d) is systematically validated.

Assessment of Employability Skills

Employability Skills are integral to workplace competency. As such, they must be considered in the design, customisation, delivery and assessment of vocational education and training programs in an integrated and holistic way, as represented diagrammatically below.



Employability Skills are embedded within each unit of competency, and an Employability Skills Summary is available for each qualification. Training providers must use Employability Skills information in order to design valid and reliable training and assessment strategies. This analysis could include:

- reviewing units of competency to locate relevant Employability Skills and determine how they are applied within the unit
- analysing the Employability Skills Summary for the qualification in which the unit or units are packaged to help clarify relevant industry and workplace contexts and the application of Employability Skills at that qualification outcome
- designing training and assessment to address Employability Skills requirements.

The National Quality Council has endorsed a model for assessing and reporting Employability Skills, which contains further suggestions about good practice strategies in teaching, assessing, learning and reporting Employability Skills. The model is available from <<http://www.training.com.au/>>.

The endorsed approach includes learners downloading qualification specific Employability Skills Summaries for Training Package qualifications from an online repository at <<http://employabilityskills.training.com.au>>

For more information on Employability Skills in

AgriFood Skills Australia Training Packages go to the AgriFood Skills Australian website at www.agrifoodskills.net.au.

Employability Skills are reported on each qualification using the following statement on the qualification testamur: "A summary of the Employability Skills developed through this qualification can be downloaded from <http://employabilityskills.training.com.au> "

Access and Equity

An individual's access to the assessment process should not be adversely affected by restrictions placed on the location or context of assessment beyond the requirements specified in this Training Package: training and assessment must be bias-free.

Under the rules for their development, Training Packages must reflect and cater for the increasing diversity of Australia's VET clients and Australia's current and future workforce. The flexibilities offered by Training Packages should enhance opportunities and potential outcomes for all people so that we can all benefit from a wider national skills base and a shared contribution to Australia's economic development and social and cultural life.

Reasonable Adjustments

It is important that education providers take meaningful, transparent and reasonable steps to consult, consider and implement reasonable adjustments for students with disability.

Under the Disability Standards for Education 2005, education providers must make reasonable adjustments for people with disability to the maximum extent that those adjustments do not cause that provider unjustifiable hardship. While 'reasonable adjustment' and 'unjustifiable hardship' are different concepts and involve different considerations, they both seek to strike a balance between the interests of education providers and the interests of students with and without disability.

An adjustment is any measure or action that a student requires because of their disability, and which has the effect of assisting the student to access and participate in education and training on the same basis as students without a disability. An adjustment is reasonable if it achieves this purpose while taking into account factors such as the nature of the student's disability, the views of the student, the potential effect of the adjustment on the student and others who might be affected, and the costs and benefits of making the adjustment.

An education provider is also entitled to maintain the academic integrity of a course or program and to consider the requirements or components that are inherent or essential to its nature when assessing whether an adjustment is reasonable. There may be more than one adjustment that is reasonable in a given set of circumstances; education providers are required to make adjustments that are reasonable and that do not cause them unjustifiable hardship. The Training Package Guidelines provides more information on reasonable adjustment, including examples of adjustments. Go to <http://www.deewr.gov.au/tpdh/Pages/home.aspx>.

Further Sources of Information

The section provides a listing of useful contacts and resources to assist assessors in planning, designing, conducting and reviewing of assessments against this Training Package.

Contacts

Industry Skills Council
AgriFood Skills Australia
PO Box 5450 Kingston ACT 2604
Ph: 02 6163 7200
Fax: 02 6162 0610
Email: trainingpackages@agrifoodskills.net.au
Web: www.agrifoodskills.net.au

Technical and Vocational Education and
Training (TVET) Australia Limited
Level 21, 390 St Kilda Road, Melbourne
VIC 3150
PO Box 12211, A'Beckett Street Post Office,
Melbourne, Victoria, 8006
Ph: +61 3 9832 8100
Fax: +61 3 9832 8198
Email: sales@tvetaustralia.com.au
Web: www.tvetaustralia.com.au

For information on the TAE10 Training and Education Training Package contact:

Innovation & Business Skills Australia

Telephone: (03) 9815 7000

Facsimile: (03) 9815 7001

Email: virtual@ibsa.org.au

Web: www.ibsa.org.au

General Resources

AQF Implementation Handbook, Fourth Edition 2007. Australian Qualifications Framework Advisory Board, 2002 <www.aqf.edu.au>

Australian Quality Training Framework (AQTF) and AQTF 2010 Users' Guide to the Essential Standards for Registration –
<http://www.training.com.au/pages/menuitem5cbe14d51b49dd34b225261017a62dbc.aspx>

For general information and resources go to <http://www.training.com.au/>

The National Register is an electronic database providing comprehensive information about RTOs, Training Packages and accredited courses - <www.ntis.gov.au>

The Training Package Development Handbook site provides National Quality Council policy for the development of Training Packages. The site also provides guidance material for the application of that policy, and other useful information and links.

<http://www.deewr.gov.au/Skills/Overview/Policy/TPDH/Pages/main.aspx>

Assessment Resources

Registered training organisations (RTOs) are at the forefront of vocational education and training (VET) in Australia. They translate the needs of industry into relevant, quality, client-focussed training and assessment.

RTOs should strive for innovation in VET teaching and learning practices and develop highly flexible approaches to assessment which take cognisance of specific needs of learners, in order to improve delivery and outcomes of training.

Resources can be purchased or accessed from:

- TVET Australia – provides an integrated service to enable users of the national training system to identify and acquire training materials, identify copyright requirements and enter licenses for use of that material consistent with the scope and direction of the NQC.

<http://www.productservices.tvetaustralia.com.au/>

- AgriFood Skills Australia

<http://www.agrifoodskills.net.au/>

Assessment Guidelines - Industry Contextualisation

Additional Advice for Assessment Design

RTOs need to take into account a range of considerations when designing assessment strategies. In particular, the majority of Units in the FDF10 Food Processing Training Package Version 3 have been written with a focus on a workplace assessment environment. Where this is obligatory it is identified in the Unit of Competency.

Wherever possible integrated (holistic) assessment is the preferred means of assessment. Holistic assessment should reflect the grouping of competencies as they would be demonstrated in an actual work role. The context of assessment is defined in each Unit of Competency.

The design of assessment needs to ensure that all aspects of competency are covered:

- task skills (performance of individual tasks)
- job/role environment skills (deals with the responsibilities and expectations of the workplace)
- relevant underpinning knowledge

and where qualification levels require:

- task management skills (managing a number of different tasks within the job)
- contingency management skills (responding to problems, breakdowns and changes in routine).

Assessors may exercise limited discretion in response to organisational or individual requirements, but any changes must not alter the meaning or integrity of the Unit of Competency. *Refer to the section on Competency Standards for more information.*

Evidence Gathering Methods

Evidence gathering methods must be gender and culturally-inclusive and take into account the language, literacy and numeracy skills of both candidate and assessor. Assessors may consider:

- incorporating a range of assessment techniques
- integrating the assessment of units related to the performance of 'whole of work' tasks, roles or functions
- using a holistic approach which combines knowledge, understanding, problem-solving, technical skills and applications to new situations into the assessment process
- assessing in the workplace (wherever possible), using familiar skills and materials
- eliminating any unnecessary reading or written assessment (if these skills are not required to do the job, they should not be part of the assessment)
- ensuring understanding of questions by rephrasing to clarify and using the language and terms of the job and the workplace
- encouraging the candidate to ask questions to clarify instructions
- providing clarification of purpose and process of assessment
- considering cultural and gender issues when setting up the assessment.
-

Workplace Assessment Considerations

Where assessment is occurring in the workplace, assessors should consult on the assessment process with the parties involved. Candidates should be briefed on the process of making judgements against the standards and made to feel as relaxed as possible.

The assessment should take place over a reasonable length of time so that the candidate has the opportunity to demonstrate work responsibility and contingency management. Third-party reports of workplace performance, if available, are helpful for this.

Consider the other staff in the workplace likely to be affected by the process. All staff directly or indirectly involved in the process should be briefed on the factors which will impact on them, such as duration or changes in work routine.

Ensure that assessment is as compatible as possible with the normal pattern of work and causes minimal disruption. Assessment resources for this Training Package should provide ways in which to address these matters.

Assessment in a Simulated Environment

Where assessment is occurring out of the workplace, it is important to ensure that:

- the assessment takes place in a situation as close as possible to workplace reality
- all aspects of competency are assessed
- the assessment takes place over a reasonable length of time so that the candidate has the opportunity to demonstrate work responsibility and contingency management (third-party reports of workplace performance, if available, are helpful for this)
- equipment, resources and documents used in assessment closely reflect workplace reality.

It is critical that the designer of the simulation is thoroughly familiar with the application of the competency and is experienced in current and relevant workplace practices. The simulation or assessment environment must provide opportunities to:

- demonstrate use of required equipment and other resources
- show the complexity of dealing with multiple tasks
- reflect time pressures and deadlines
- involve prioritising among competing tasks
- deal with customers/clients, including difficult ones
- work with others in a team
- communicate with diverse groups
- find, discuss and test solutions to problems
- explore food safety and hygiene issues
- explore health and safety issues
- answer practically-oriented, applied knowledge questions
- show the level of verbal and written expression sufficient for, but not exceeding, the work requirements.

Training and Assessment in Remote and Regional Areas

Training and assessing candidates in remote and regional areas present a range of challenges. These include:

- lack of numbers preventing the establishment of traditional class sizes
- physical remoteness of some communities, where access to training facilities is limited
- scarcity of trainers with the required industry experience
- scarcity of physical training resources (e.g. current and emerging technology).

Some options for overcoming these challenges include:

- partnerships between RTOs to establish classes, i.e. programs delivered on a regional rather than local basis
- delivering certain units by distance mode
- partnerships between industry and RTOs to share resources and personnel
- partnerships between schools and RTOs
- recruiting suitably qualified workplace supervisors to oversee instruction and assessment on the job
- travelling to remote workplaces to provide instruction and assessment
- use of technology (e.g. email, video demonstration, CDs and internet) and self-paced resources
- use of block release delivery methodology.

Training and Assessment for Schools

Implementation of FDF10 Food Processing Training Package Version 3 within the school sector needs to ensure the following:

- currency of skills and knowledge of those charges with training and assessing students
- access to industry-current equipment, facilities and training resources so that students acquire a realistic view of the realities and conditions within the workplace
- comprehensive coverage of underpinning skills and knowledge as delineated within the units of competency
- appropriateness of learning and assessment experiences to ensure that these are current and realistic.

It is recommended that delivery of qualifications in schools should only include Certificates I and II.

Assessment for Equity Groups

It is important that assessment processes take into account a diversity of individual needs and learning styles related to disability, race, socio-economic status, gender, language, ethnicity, geographical isolation, sexuality, work commitments and family responsibilities.

Some inclusive assessment practices which will enhance the learning of all students include:

- know what, in particular, you are assessing, and make this clear to students
- create assessment activities in which students have the opportunity to link their learning to what they already know
- make your expectations clear
- make explicit the way in which competency will be assessed, both in discussion with the class beforehand and prior to any assessment activities
- provide alternative pathways to stated outcomes: allow for flexibility in approach, organisation and assessment. The greater the diversity of methods of assessment, the fairer the process for the greatest number of students
- make accommodations based on individual circumstance and need. Remember that students may need the opportunity to experiment to find the adaptation or accommodation which best meets their learning needs
- include self-assessment as a component of the course. Self-assessment involves discussion with students about the criteria according to which they assess their own performance and the level of performance required for different levels

- discuss assessment alternatives with staff with previous experience teaching students with disabilities. You (and your department) should regularly review any alternative arrangements to ensure that these meet both the student's needs (which may change over time) and stated course outcomes.

-

Assessment for Indigenous Learners

There is evidence that Aboriginal and Torres Strait Islander people, both traditional and contemporary, approach learning differently from the Western intellectual tradition, which is relevant to effective training and assessment. It is understood that Aboriginal and Torres Strait Islander people may:

- learn better in groups than individually
- learn better in the surroundings of their community than in an institutional environment
- prefer oral communications to written forms
- learn on the basis of trial and error in the presence of an experienced person in preference to concept building approaches
- have a highly-developed sense of spatial relations by which they learn; hence stories, maps and pictures would be preferable to oral explanations.

To be effective, it is necessary that training and assessment recognises, adopts and practises appropriate delivery and assessment approaches.

Trainers and assessors who are not Aboriginal or Torres Strait Islanders need information on aspects of Aboriginal and Torres Strait Islander culture. They need to work closely with Aboriginal and Torres Strait Islander people to adopt practices that reflect Aboriginal and Torres Strait Islander approaches. The community should be asked to identify experts to provide information and to assist with assessment of relevant protocols, for example, where required.

There are a number of ways an RTO can establish and maintain culturally appropriate training and assessment practices, including:

- ensuring a high proportion of Aboriginal and Torres Strait Islander participation in all aspects of planning, development, delivery and evaluation
- establishing and maintaining a collaborative relationship with local Aboriginal and Torres Strait Islander communities
- as a mainstream (non-Indigenous) RTO, establishing auspice relationships with Aboriginal and Torres Strait Islander organisations and individuals, including direct and indirect involvement of persons identified as appropriate by the local community
- ensuring ongoing training of non-Aboriginal and Torres Strait Islander staff at all levels of the RTO, delivered by Aboriginal and Torres Strait Islander personnel.

A flexible approach to assessment will be required by RTOs in order to meet the requirements of Aboriginal and Torres Strait Islander organisations and individuals under this domain within the FDF10 Food Processing Training Package Version 3. Principles that underpin assessment include:

- assessment should be transparent, i.e. clearly seen and understood by the candidate and others
- assessment should empower the candidate on the basis of consent, self-assessment and responsibility for the process

- assessment should involve designated community experts working in collaboration with RTO assessors in order to provide appropriate recognition of cultural and community skills and knowledge
- assessments must provide constructive feedback to candidates and support for further competency development.

Assessment for People with a Disability

A disability presents some impairment to everyday activity. Some people with a disability do not have any impairments resulting from their disability. For example, a person who has a hearing impairment which is compensated for by a hearing aid may function without any adjustments. Some people with a disability may have an impairment because of the environment, not the disability itself. For example, hearing loss can be accentuated in a room with loud, competing noise and poor acoustics.

A disability may affect or relate to a range of human functions, including mobility, stamina, lifting ability, memory, vision, hearing, speech, comprehension and mood swings. This may be due to accidents, illnesses or birth.

It is important to remember that it is not the disability itself that should be of interest but its impact on the student's ability to access material and demonstrate knowledge.

Training providers have a legal obligation under the Disability Standards for Education to ensure that students who have a disability are able to access and participate in education without experiencing discrimination. The information provided below is aimed at assisting teachers/trainers to meet the reasonable adjustment needs of people who have a disability.

Adjustments in Training and Assessment

An open mind, common sense and tailoring to individual circumstances will, as often as not, ensure individuals achieve the standards that employers and training providers expect.

Reasonable adjustments need only be that - reasonable. It is about identifying what adjustments might reasonably be made and how they may be put into place. Training and assessment can be made more appropriate and fairer for a person who has a disability through attitude, preparation and application.

Attitude

The attitude of others is often the greatest barrier for people who have a disability. While most people who have a disability will only ever require minor adjustments to ensure learning is positive, some will require additional support. There are many support agencies that can provide advice, however teachers/trainers may need to take additional time to ensure their teaching/training meets the learning support needs of the individual concerned.

Positive language creates an atmosphere of mutual respect, which is essential to learning. For example, using language that identifies learners as people rather than language that identifies them by one of their characteristics conveys that the person is more important than the characteristic, such as the difference between a 'person who has an intellectual disability' and an 'intellectually disabled person'. A person who has an intellectual disability could also be identified by a range of equally important characteristics - height, age, sporting interests, etc. However, the term 'intellectually disabled person' refers to the disability as the major, and often only, defining characteristic.

Preparation

It is important to identify any functional issues arising from the nature and extent of a person's disability. This can usually be done by discussing such issues with the individual. In most cases, this consultation will identify reasonable adjustment needs which can be put into place. There are many simple things that teachers/trainers can do to make reasonable adjustments to enable individuals who have a disability to succeed in training and assessment. In some cases, professional support may be required.

Application

Once reasonable adjustments have been implemented it is important to monitor and evaluate what has been done to ensure the best environment for continuous learning because:

- adjustments may only need to be temporary, i.e. mechanisms may only need to be in place during an induction period or due to a temporary disability, in which case evaluation will ensure appropriateness without the need for ongoing monitoring
- adjustments may need reinforcing - when adjustments need to be ongoing, monitoring may reinforce patterns of behaviour in order for them to become 'natural'
- adjustments may need improving - where adjustments are ongoing or substantial, a commitment to continuous improvement is recommended through monitoring.

In most cases an informal discussion with the person concerned may be all that is necessary. However, should adjustments be substantial, or a learner not be acquiring competence at a reasonable rate, a more formal process may be required. This may include:

- performance indicators - training providers, learners and employers should have agreed indicators of performance which can be measured and monitored
- independent support - a third party, independent of the training and/or assessment environment, may need to be involved
- experimentation - if existing adjustments are not proving satisfactory, creative solutions may be needed
- continuing review - formal monitoring is encouraged if adjustments are changed or if substantial adjustments are necessary.

For further information on training and assessment for people with specific needs, the DEEWR website has information about the National Disability Coordination Officer Program, which 'provides information, coordination and referral services for people with a disability interested in or enrolled in post-school education and training' (www.deewr.gov.au). The Disability Education Standards Guidance Notes can also be accessed at on the DEEWR web site at:

http://www.deewr.gov.au/Schooling/Programs/Documents/Disability_Standards_for_Education_2005_pdf.pdf.

Reasonable Adjustment

Below are some of the practical things that can be done as part of providing reasonable adjustment to learners with specific support needs to enable them to undertake training and assessment. Clearly, each case will be different and will need to be discussed with the person and in some cases expert help will be needed, at least in the initial stages.

Type of disability	Reasonable adjustment
Acquired brain injury	<ul style="list-style-type: none"> • Memory aids (posters and notes) • Reflective listening skills • Stress minimisation • Time and patience.
Hearing impairment	<ul style="list-style-type: none"> • Audio loops for people using hearing aids • Plain English documents • Fire and alarm systems with flashing lights • Sign language interpreters • Telephone typewriters.
Intellectual disability	<ul style="list-style-type: none"> • Additional time • Assessment which is appropriate to the skill (i.e. avoiding written assessment for practical tasks) • Mentors • Plain English documents • Practical learning sessions • Repetition of learning exercises.

Mobility impairment	<ul style="list-style-type: none"> • Access to aids, such as for holding documents • Adjustable tables • Lifting limits • Note-taking support • Verbal rather than written presentations • Personal computers • Wheelchair access.
Psychiatric disability	<ul style="list-style-type: none"> • Identification and avoidance of stresses • Ongoing rather than formal assessments • Reflective listening skills • 'Time-out' breaks in assessment.
Speech impairment	<ul style="list-style-type: none"> • Information summaries • Stress minimisation • Time and patience • Written rather than verbal opportunities • Additional writing time for assignments and tests.
Vision impairment	<ul style="list-style-type: none"> • Audiotapes • Braille translations • Enlarged computer screen images • Enlarged text and images • Good lighting or reading lamps • Guide dog provision • Informing the person before moving furniture • Voice synthesisers on computers.

Training and Assessment Resources and Information for Equity Groups

The following references provide a range of information and resources related to training and assessment for equity groups.

- The Australian Disability Clearing House on Education and Training www.adcet.edu.au website includes resources and articles about the training and assessment of people with a disability.
- Information source for Aboriginal and/or Torres Strait Islander people training and assessment include: National Aboriginal and Torres Strait Education website: <http://www.natsiew.edu.au>. In addition most State and Territory Education Departments have an Aboriginal and/or Torres Strait Islander Unit who may be able to provide advice and information.
- The Working with Diversity web site at <http://www.westone.wa.gov.au/workingwithdiversity> includes a range of resources including:
 - *Working with diversity: A Guide to Equity and the AQTF*
 - *Working with diversity: Quality Training for Indigenous Australians*
 - *Working with diversity: Quality Training for People with a Disability*

- Other relevant, up to date resources may be available in the resources section of the Skills area of the Department of Education, Employment and Workplace Relations at www.deewr.gov.au.
- 1) Other informative resources include:
 - LiteracyNet at <http://www.deewr.gov.au/skills/programs/litandnum/literacynet/Pages/default.aspx>. The site contains key information about Australian adult literacy activities and links to a range of additional program, professional development, resource and research sites.

Competency Standards

What is competency?

The broad concept of industry competency concerns the ability to perform particular tasks and duties to the standard of performance expected in the workplace. Competency requires the application of specified skills, knowledge and attitudes relevant to effective participation in an industry, industry sector or enterprise.

Competency covers all aspects of workplace performance and involves performing individual tasks; managing a range of different tasks; responding to contingencies or breakdowns; and, dealing with the responsibilities of the workplace, including working with others. Workplace competency requires the ability to apply relevant skills, knowledge and attitudes consistently over time and in the required workplace situations and environments. In line with this concept of competency Training Packages focus on what is expected of a competent individual in the workplace as an outcome of learning, rather than focussing on the learning process itself.

Competency standards in Training Packages are determined by industry to meet identified industry skill needs. Competency standards are made up of a number of units of competency each of which describes a key function or role in a particular job function or occupation. Each unit of competency within a Training Package is linked to one or more AQF qualifications.

Contextualisation of Units of Competency by RTOs

Registered Training Organisation (RTOs) may contextualise units of competency to reflect local outcomes required. Contextualisation could involve additions or amendments to the unit of competency to suit particular delivery methods, learner profiles, specific enterprise equipment requirements, or to otherwise meet local needs. However, the integrity of the overall intended outcome of the unit of competency must be maintained.

Any contextualisation of units of competency in this endorsed Training Package must be within the bounds of the following advice:

- RTOs must not remove or add to the number and content of elements and performance criteria.
- RTOs can add specific industry terminology in the range statement.
- Any amendments and additions to the range statement made by RTOs must not diminish the breadth of application of the competency and reduce its portability.
- RTOs may add detail to the evidence guide in areas such as the critical aspects of evidence or required resources and infrastructure - but only where these expand the breadth of the competency and do not limit its use.

Components of Units of Competency

The components of units of competency are summarised below, in the order in which they appear in each unit of competency.

Unit Title

The unit title is a succinct statement of the outcome of the unit of competency. Each unit of competency title is unique, both within and across Training Packages.

Unit Descriptor

The unit descriptor broadly communicates the content of the unit of competency and the skill area it addresses. Where units of competency have been contextualised from units of competency from other endorsed Training Packages, summary information is provided. There may also be a brief second paragraph that describes its relationship with other units of competency, and any licensing requirements.

Employability Skills

This sub-section contains a statement that the unit contain Employability skills.

Prerequisite Units (optional)

If there are any units of competency that must be completed before the unit, these will be listed.

Application of the Unit

This sub-section fleshes out the unit of competency's scope, purpose and operation in different contexts, for example, by showing how it applies in the workplace.

Competency Field (Optional)

The competency field either reflects the way the units of competency are categorised in the Training Package or denotes the industry sector, specialisation or function. It is an optional component of the unit of competency.

Sector (optional)

The industry sector is a further categorisation of the competency field and identifies the next classification, for example an elective or supervision field.

Elements of Competency

The elements of competency are the basic building blocks of the unit of competency. They describe in terms of outcomes the significant functions and tasks that make up the competency.

Performance Criteria

The performance criteria specify the required performance in relevant tasks, roles, skills and in the applied knowledge that enables competent performance. They are usually written in passive voice. Critical terms or phrases may be written in bold italics and then defined in range statement, in the order of their appearance in the performance criteria.

Required Skills and Knowledge

The essential skills and knowledge are either identified separately or combined. Knowledge identifies what a person needs to know to perform the work in an informed and effective manner. Skills describe the application of knowledge to situations where understanding is converted into a workplace outcome.

Range Statement

The range statement provides a context for the unit of competency, describing essential operating conditions that may be present with training and assessment, depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. As applicable, the meanings of key terms used in the performance criteria will also be explained in the range statement.

Evidence Guide

The evidence guide is critical in assessment as it provides information to the Registered Training Organisation (RTO) and assessor about how the described competency may be demonstrated. The evidence guide does this by providing a range of evidence for the assessor to make determinations, and by providing the assessment context. The evidence guide describes:

- conditions under which competency must be assessed including variables such as the assessment environment or necessary equipment;
- relationships with the assessment of any other units of competency;
- suitable methodologies for conducting assessment including the potential for workplace simulation;
- resource implications, for example access to particular equipment, infrastructure or situations;

- how consistency in performance can be assessed over time, various contexts and with a range of evidence, and
- the required underpinning knowledge and skills.

Employability Skills in Units of Competency

The detail and application of Employability Skills facets will vary according to the job-role requirements of each industry. In developing Training Packages, industry stakeholders are consulted to identify appropriate facets of Employability Skills which are incorporated into the relevant units of competency and qualifications.

Employability Skills are not a discrete requirement contained in units of competency (as was the case with Key Competencies). Employability Skills are specifically expressed in the context of the work outcomes described in units of competency and will appear in elements, performance criteria, range statements and evidence guides. As a result, users of Training Packages are required to review the entire unit of competency in order to accurately determine Employability Skills requirements.

How Employability Skills relate to the Key Competencies

The eight nationally agreed Employability Skills now replace the seven Key Competencies in Training Packages. Trainers and assessors who have used Training Packages prior to the introduction of Employability Skills may find the following comparison useful.

Employability Skills	Mayer Key Competencies
Communication	Communicating ideas and information
Teamwork	Working with others and in teams
Problem solving	Solving problems Using mathematical ideas and techniques
Initiative and enterprise	
Planning and organising	Collecting, analysing and organising information Planning and organising activities
Self-management	
Learning	
Technology	Using technology

When analysing the above table it is important to consider the relationship and natural overlap of Employability Skills. For example, using technology may involve communication skills and combine the understanding of mathematical concepts.

Explicitly embedding Employability Skills in Units of Competency

This Training Package seeks to ensure that industry-endorsed Employability Skills are explicitly embedded in units of competency. The application of each skill and the level of detail included in each part of the unit will vary according to industry requirements and the nature of the unit of competency.

Employability Skills must be both explicit and embedded within units of competency. This means that Employability Skills will be:

- embedded in units of competency as part of the other performance requirements that make up the competency as a whole
- explicitly described within units of competency to enable Training Packages users to identify accurately the performance requirements of each unit with regards to Employability Skills.

This Training Package also seeks to ensure that Employability Skills are well-defined and written into units of competency so that they are apparent, clear and can be delivered and assessed as an essential component of unit work outcomes.

Sample Unit of Competency Components showing Employability Skills

The following table shows the sequence of a unit of competency, and each cell contains text taken from a range of units. It provides examples of where and how various Employability Skills could be embedded in each component.

Please note that in the example, the bracketed Employability Skills are provided for clarification only and would not be present in units of competency within this Training Package.

Unit Title	Give formal presentations and take part in meetings (Communication)
Unit Descriptor	This unit covers the skills and knowledge required to promote the use and implementation of innovative work practices to effect change. (Initiative and enterprise)
Element	Proactively resolve issues. (Problem solving)
Performance Criteria	Information is organised in a format suitable for analysis and dissemination in accordance with organisational requirements. (Planning and organising)
Range Statement	Software applications may include email, internet, word processing, spreadsheet, database or accounting packages. (Technology) Modify activities depending on differing workplace contexts, risk situations and environments. (Learning)

Required Skills and Knowledge	Work collaboratively with others during a fire emergency. (Teamwork) Instruction, procedures and other information relevant to the maintenance of vessel and port security. (Communication)
Evidence Guide	Evidence of having worked constructively with a wide range of community groups and stakeholders to solve problems and adapt or design new solutions to meet identified needs in crime prevention. In particular, evidence must be obtained on the ability to: <ul style="list-style-type: none"> • assess response options to identified crime-prevention needs and determine the optimal action to be implemented • in consultation with relevant others, design an initiative to address identified issues (Initiative and enterprise)

Employability Skills Summaries and Units of Competency

An Employability Skills Summary exists for each qualification. Summaries include broad advice on industry expectations with regard to Employability Skills at the qualification level. Summaries should be used by trainers and assessors to assist in identifying the Employability Skills requirements contained within units of competency.

Competency Standards - Industry Contextualisation

FDF10v3 Contextualisation Guidelines

This Training Package is relevant to the broad spectrum of Australian industries where food, beverage and pharmaceutical production is undertaken and users are encouraged to customise qualifications and contextualise units of competency to suit their enterprise or sector purposes, provided that the customisation rules are followed.

Customisation of this Training Package may be achieved by:

- choosing appropriate electives from units provided in this Training Package
- importing elective units from other Training Packages or accredited courses
- contextualising units of competency to better suit an enterprise or industry context.

The export of units to other Training Packages is encouraged provided the following rules are observed.

Choosing Appropriate Electives

The electives listed in the Food Processing Training Package provide for skill development in all areas identified by industry representatives during consultations.

Most qualifications are able to be customised since candidates are able to choose particular combinations of elective units to suit their individual needs or work context.

Importing Elective Units from Other Training Packages or Accredited Courses

To achieve maximum cross-industry application, the packaging rules enable units of competency to be imported from any Training Package or accredited course that is directly relevant to the candidate's current or intended work environment. In providing this flexibility it is incumbent on RTOs to ensure that the integrity of qualifications in the Training Package is maintained. The following guidelines for importing units apply.

- Imported units must relate to the core functions or roles in the candidate's current or intended work environment.
- The original title and code for the imported unit of competency must be retained.
- Imported units must come from other endorsed Training Packages or accredited courses.
- Imported units must align to the qualification level outlined in the relevant qualification packaging rules.

Exporting Competencies to Other Training Packages

FDF10v3 has some application across industries outside the scope of the FDF10v3 Training Package. All FDF10v3 units may be imported to other Training Packages provided that:

- the original unit code and unit title are retained
- they are only contextualised to the extent outlined in the *section on Competency Standards*
- the user advises the appropriate Industry Skills Council in writing of the specific competencies exported to enable input during future revisions and ongoing communication.

Contextualisation of Units of Competency

FDF10v3 competencies are able to be used in a wide range of industry sectors and enterprises. To enable this, contextualising of the units of competency is actively encouraged provided the requirements outlined in the earlier *section on Competency Standards* are met.

FDF10111 Certificate I in Food Processing

Modification History

This Qualification supersedes but is not equivalent to FDF10110 Certificate I in Food Processing and FDF10403 Certificate I in Food Processing (Wine).

September 2012: Replacement of superseded imported Units

November 2011: Inclusion of two (2) new elective wine Units, and updates to imported Units.

Description

This Qualification covers a range of food processing industries, such as:

- Grain processing (including stock feed, animal feeds, milling wheat, barley, oats and flour milling)
- Baking (including large scale production of cakes, pastry, bread, biscuits and plant baking)
- Retail baking
- Beverages (including juices, soft drinks, cordials, aerated and still waters, energy drinks and other modified beverages, such as vitamin and antioxidant beverages, coffee, tea and ice)
- Confectionery
- Dairy processing
- Fruit and vegetables
- Grocery products and supplies (including honey, jams, spreads, sauces, dressings, condiments, spices, edible oils and fats and pasta)
- Poultry.

Job Roles

The Certificate I in Food Processing is an introductory Qualification to food, beverage and grain processing that provides basic skills relevant to all FDF10 Food Processing Training Package sectors apart from pharmaceutical manufacturing. The Qualification is designed for application in a highly supervised context, such as VET in schools, induction to industry, or other equivalent introduction environments.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include direct entry.

Pathways from the Qualification

After achieving this Qualification, candidates may move into employment in a food, beverage or grain processing enterprise and undertake the FDF20110 Certificate II in Food Processing, FDF20510 Certificate II in Retail Baking or FDF20210 Certificate II in Pharmaceutical Manufacturing, or any other suitable Qualification according to the needs of the enterprise and higher level job functions.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate I in Food Processing

The following table contains a summary of the employability skills as identified by the Food Processing industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete all reporting as required. • Receive and relay oral and written messages. • Read and apply workplace procedures and instructions. • Communicate information about problems with work.
Teamwork	<ul style="list-style-type: none"> • Work as a team member. • Identify own role and responsibilities within a team. • Share workplace information.
Problem-solving	<ul style="list-style-type: none"> • Recognise and report any workplace hazards. • Identify common problems and take required action. • Follow workplace food safety procedures.
Initiative and enterprise	<ul style="list-style-type: none"> • Inspect quality of work on an ongoing basis. • Take appropriate corrective action to routine work problems. • Select appropriate equipment. • Distinguish between urgent and non-urgent tasks.
Planning and organising	<ul style="list-style-type: none"> • Identify work requirements. • Identify work priorities. • Plan work activities to meet daily work requirements. • Direct items to the correct area for further processing. • Identify and use relevant personal protective equipment. • Organise work area to maintain housekeeping standards. • Organise relevant equipment and tools.
Self-management	<ul style="list-style-type: none"> • Identify personal responsibilities and work requirements. • Manage time to meet own work requirements. • Plan activity to meet own work requirements. • Keep the work area clean and tidy at all times. • Monitor the quality of own work against quality standards. • Follow OHS practices. • Identify safety requirements for working in food processing industry. • Seek assistance from other team members where appropriate.
Learning	<ul style="list-style-type: none"> • Check work outcomes against workplace standards and identify inconsistencies.

	<ul style="list-style-type: none"> • Assess own ability to meet job requirements. • Listen to feedback and advice of supervisors. • Identify own skill requirements and seek skill development if required. • Attend training or skill development activities. • Ask questions to expand own knowledge. • self-check numerical information.
Technology	<ul style="list-style-type: none"> • Use work tools, machines and equipment safely and according to workplace procedures. • Use manual handling technologies in the workplace. • Use information technology devices as required.

Packaging Rules

This Qualification requires the achievement of **nine (9)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of five (5) Units coded FDF.

Five (5) Core Units

Four (4) Elective Units

Elective selection must include:

- Two (2) Group A elective Units

Two (2) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Units packaged in any Certificate I or II level Food Processing Training Package Qualification
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate I level or Certificate II level (maximum 1 Unit)

CORE UNITS

Complete all five (5) core Units:

FDFFS1001A	Follow work procedures to maintain food safety#
FDFOHS1001A	Work safely
FDFOP1009A	Follow work procedures to maintain quality
FDFOP1010A	Communicate workplace information
MSAENV272B	Participate in environmentally sustainable work practices

In the case where this Qualification is to be applied in a work environment where food is processed for non-human consumption, such as pet food and stock feed or other situations where human food safety skills are not required, then this Unit may be replaced by **FDFOP2062A Apply work procedures to maintain integrity of product.**

ELECTIVE UNITS

GROUP A

Select a minimum of two (2) Group A Cross Sector elective Units

FDFOP1001A	Pack or unpack product manually
FDFOP1002A	Operate automated washing equipment
FDFOP1003A	Carry out manual handling tasks

FDFOP1004A	Prepare basic mixes
FDFOP1005A	Operate basic equipment
FDFOP1006A	Monitor process operation
FDFOP1007A	Participate effectively in a workplace environment
FDFOP1008A	Take and record basic measurements
FDFOP2061A	Use numerical applications in the workplace
FDFRB1001A	Finish products
FDFWIN1001A	Identify key operations in wine production
FDFWIN1002A	Identify viticulture processes
SIRXCCS201	Apply point-of-sale handling procedures
SIRXCCS202	Interact with customers
SIRXICT001A	Operate retail technology
SIRXINV001A	Perform stock control procedures
SIRXSLS201	Sell products and services
TLIA2014A	Use product knowledge to complete work operations

FDF10210 Certificate I in Pharmaceutical Manufacturing

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Update to imported Units.

Description

This Qualification covers the pharmaceutical manufacturing specialisation.

Job Roles

The Certificate I in Pharmaceutical Manufacturing is an introductory Qualification to pharmaceutical manufacturing that provides basic skills relevant to this sector. The Qualification is designed for application in a highly supervised context, such as VET in schools, induction to industry, or other equivalent introduction environments.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Many Units in this Qualification assume a basic level of mathematics equivalent to a school sector Year 10 standard. If a student does not possess this level of mathematics then the Unit FDFOP2061A Use numerical applications in the workplace should be selected as part of this Qualification.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- direct entry.

Pathways from the Qualification

After achieving this Qualification, candidates may move into employment in a pharmaceutical manufacturing enterprise and undertake the FDF20210 Certificate II in Pharmaceutical Manufacturing or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with Good Manufacturing Practice, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate I in Pharmaceutical Manufacturing

The following table contains a summary of the employability skills as identified by the Pharmaceutical Manufacturing industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete all reporting as required. • Receive and relay oral and written messages. • Read and apply workplace procedures and instructions. • Communicate information about problems with work.
Teamwork	<ul style="list-style-type: none"> • Work as a team member. • Identify own role and responsibilities within a team. • Share workplace information.
Problem-solving	<ul style="list-style-type: none"> • Recognise and report any workplace hazards. • Identify common problems and take required action. • Follow workplace food safety procedures.
Initiative and enterprise	<ul style="list-style-type: none"> • Inspect quality of work on an ongoing basis. • Take appropriate corrective action to routine work problems. • Select appropriate equipment. • Distinguish between urgent and non-urgent tasks.
Planning and organising	<ul style="list-style-type: none"> • Identify work requirements. • Identify work priorities. • Plan work activities to meet daily work requirements. • Direct items to the correct area for further processing. • Identify and use relevant personal protective equipment. • Organise work area to maintain housekeeping standards. • Organise relevant equipment and tools.
Self-management	<ul style="list-style-type: none"> • Identify personal responsibilities and work requirements. • Manage time to meet own work requirements. • Plan activity to meet own work requirements. • Keep the work area clean and tidy at all times. • Monitor the quality of own work against quality standards. • Follow OHS practices. • Identify safety requirements for work. • Seek assistance from other team members where appropriate.
Learning	<ul style="list-style-type: none"> • Check work outcomes against workplace standards and identify inconsistencies.

	<ul style="list-style-type: none">• Assess own ability to meet job requirements.• Listen to feedback and advice of supervisors.• Identify own skill requirements and seek skill development if required.• Attend training or skill development activities.• Ask questions to expand own knowledge.• self-check numerical information.
Technology	<ul style="list-style-type: none">• Use work tools, machines and equipment safely and according to workplace procedures.• Use manual handling technologies in the workplace.• Use information technology devices as required.

Packaging Rules

This Qualification requires the achievement of **eight (8)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of four (4) Units coded FDF.

Four (4) Core Units

Four (4) Elective Units

Elective selection must include:

- Two (2) Group A elective Units

Two (2) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Units packaged in any Certificate I or II Food Processing Training Package Qualification
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate I level or Certificate II level (maximum 1 Unit)

CORE UNITS

Complete all four (4) core Units.

FDFOHS1001A	Work safely
FDFOP1010A	Communicate workplace information
FDFPH1001A	Follow work procedures to maintain Good Manufacturing Practice
MSAENV272B	Participate in environmentally sustainable work practices

GROUP A

Select a minimum of two (2) Group A elective Units.

FDFOP1001A	Pack or unpack product manually
FDFOP1002A	Operate automated washing equipment
FDFOP1003A	Carry out manual handling tasks
FDFOP1004A	Prepare basic mixes
FDFOP1005A	Operate basic equipment
FDFOP1006A	Monitor process operation
FDFOP1007A	Participate effectively in a workplace environment
FDFOP1008A	Take and record basic measurements
FDFOP2061A	Use numerical applications in the workplace

FDFRB1001A	Finish products
SIRXCCS201	Apply point-of-sale handling procedures
SIRXCCS202	Interact with customers
SIRXICT001A	Operate retail technology
SIRXINV001A	Perform stock control procedures
SIRXSLS201	Sell products and services
TLIA2014A	Use product knowledge to complete work operations
TLID1002A	Shift a load using manually operated equipment

FDF11012 Certificate I in Sugar Milling Industry Operations

Modification History

This qualification has been derived from SUG10102 Certificate I in Sugar Milling. See Qualification Mapping Guide for notes on equivalence.

Description

Job Roles

This qualification covers work undertaken by sugar milling industry workers. Job roles may include for example:

Cane Supply Transport

Yard assistant

Loco driver assistant

Mill Services

Labourer

Maintenance worker

Additional Qualification Advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

The FDF11011 Certificate I in Sugar Milling Industry Operations is an introductory qualification to sugar milling that provides basic skills. The qualification is designed for application in a highly supervised context, such as VET in schools, induction to industry, or other equivalent introduction environments.

Pathways from the Qualification

After achieving this qualification, candidates may move into employment in the sugar milling industry and undertake the FDF21012 Certificate II in Sugar Milling Industry Operations or any other suitable qualification according to the needs of the enterprise and higher level job functions.

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • Complete all reporting as required • Receive and relay oral and written messages • Read and apply workplace procedures and instructions • Communicate information about problems with work
Teamwork	<ul style="list-style-type: none"> • Work as a team member • Identify own role and responsibilities within a team • Share workplace information
Problem-solving	<ul style="list-style-type: none"> • Recognise and report any workplace hazards • Identify common problems and take required action • Follow workplace food safety procedures
Initiative and Enterprise	<ul style="list-style-type: none"> • Inspect quality of work on an ongoing basis • Take appropriate corrective action to routine work problems • Select appropriate equipment • Distinguish between urgent and non-urgent tasks
Planning and Organising	<ul style="list-style-type: none"> • Identify work requirements • Identify work priorities • Plan work activities to meet daily work requirements • Direct items to the correct area for further processing • Identify and use relevant personal protective equipment • Organise work area to maintain housekeeping standards • Organise relevant equipment and tools
Self-management	<ul style="list-style-type: none"> • Identify personal responsibilities and work requirements • Manage time to meet own work requirements • Plan activity to meet own work requirements • Keep the work area clean and tidy at all times • Monitor the quality of own work against quality standards • Follow OHS practices • Identify safety requirements for working in food processing industry • Seek assistance from other team members where appropriate
Learning	<ul style="list-style-type: none"> • Check work outcomes against workplace standards and identify inconsistencies • Assess own ability to meet job requirements • Listen to feedback and advice of supervisors • Identify own skill requirements and seek skill development if required • Attend training or skill development activities • Ask questions to expand own knowledge

	<ul style="list-style-type: none">• self-check numerical information
Technology	<ul style="list-style-type: none">• Use work tools, machines and equipment safely and according to workplace procedures• Use manual handling technologies in the workplace• Use information technology devices as required

Packaging Rules

Complete **nine (9)** units of competency comprised of:

- Four (4) Core Units
- Five (5) Elective Units

Core Units

Complete all four (4) core units

Unit Code	Unit Title
FDFOHS1001A	Work safely
FDFOP1007A	Participate effectively in a workplace environment
FDFOP1010A	Communicate workplace information
MSAENV272B	Participate in environmentally sustainable work practices

Elective Units

- Select a minimum of **two (2)** units from Group A below.
- An additional **three (3)** units can come from Group A and/or this or any other Training Package or accredited course at Certificate I or II.
- Selected units must be relevant to job outcomes in the sugar milling industry.

Group A Units

Sector Specialist Units	
Rail Infrastructure	
FDFSUG101A	Install pre-ballast
Rail Transport Operations	
FDFSUG102A	Undertake shunting operations
Factory Operations	
FDFSUG103A	Move cane bins in a marshalling yard
Laboratory	

FDFSUG104A	Check a cane sample for extraneous matter
FDFSUG105A	Manually clean and maintain housekeeping standards
Factory Maintenance	
AHCMOM101A	Assist with routine maintenance of machinery and equipment
FDFOP1005A	Operate basic equipment
MEM18001C	Use hand tools
MEM18002B	Use power tools/hand held operations
General	
FDFOP1006A	Monitor process operation
AHCBAC101A	Support agricultural crop work
TLID1001A	Shift materials safely using manual handling methods
TLID1002A	Shift a load using manually-operated equipment

FDF20111 Certificate II in Food Processing

Modification History

This Qualification supersedes and is equivalent to FDF20110 Certificate II in Food Processing.

September 2012: Replacement of superseded imported Units.

April 2012: Inclusion of new malting and brewing Units as electives. Update of imported SUG Units to new FDFSUG Units. Minor typographical corrections.

November 2011: Update to imported Units, including one non-equivalent Unit. Minor edits.

Description

This Qualification covers a range of food processing industries, such as:

- Grain processing (including stockfeed, animal feeds, milling wheat, barley, oats and flour milling)
- Baking (including large scale production of cakes, pastry, bread, biscuits and plant baking)
- Beverages (including juices, soft drinks, cordials, aerated and still waters, energy drinks and other modified beverages, such as vitamin and antioxidant beverages, coffee, tea and ice)
- Confectionery
- Dairy processing
- Fruit and vegetables
- Grocery products and supplies (including honey, jams, spreads, sauces, dressings, condiments, spices, edible oils and fats and pasta)
- Poultry.

Job Roles

The Certificate II in Food Processing targets those working within a production or production support role, for example, packaging, machine operations and bottling. This Qualification is designed for application in supervised environments where the work is predictable with some basic problem solving requirements.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Many Units in this Qualification assume a basic level of mathematics equivalent to a school sector Year 10 standard. If a student does not possess this level of mathematics then the Unit FDFOP2061A Use numerical applications in the workplace should be selected as part of this Qualification.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF10110 Certificate I in Food Processing
- direct entry
- limited vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake the FDF30110 Certificate III in Food Processing with an industry specialisation according to the needs of the enterprise and higher level job functions, FDF30810 Certificate III in Plant Baking or FDF30310 Certificate III in Food Processing (Sales) or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, OHS and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

The following table contains a summary of the employability skills as identified by the Food Processing industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete work forms and required written documentation. • Use communication and information technologies to support work operations. • Demonstrate effective and appropriate interpersonal skills. • Interpret and apply workplace procedures and instructions. • Share workplace information. • Communicate information about problems with work. • Communicate information relating to OHS.
Teamwork	<ul style="list-style-type: none"> • Work as part of a team. • Provide assistance to others in the work area. • Identify own role and responsibilities within a team. • Identify team goals. • Share work related information. • Maintain health and safety of work area for self and others.
Problem-solving	<ul style="list-style-type: none"> • Identify and report any workplace hazards. • Identify workplace problems and make contributions to their solution. • Identify and apply health and safety issues relating to work in the food industry. • Apply knowledge of materials, product purpose and processes to work operations. • Check performance of machines and equipment and identify signs of faulty operations. • Monitor workplace activities and identify and report non-compliances.
Initiative and enterprise	<ul style="list-style-type: none"> • Provide feedback on procedures and processes. • Gather and interpret information to support safe and efficient work. • Ask questions regarding requirements and expectations. • Make suggestions for continuous improvement. • Inspect quality of work on an ongoing basis. • Record basic information on the quality and other indicators of work outcomes.

Planning and organising	<ul style="list-style-type: none"> • Identify work requirements and work load priorities. • Plan work activities to meet daily work requirements. • Direct items to the correct area for further processing. • Identify and use relevant personal protective equipment. • Organise work area to maintain housekeeping standards. • Select and organise relevant equipment and tools. • Identify and report issues affecting ability to meet work outcomes.
Self-management	<ul style="list-style-type: none"> • Understand own work activities. • Identify personal responsibilities. • Accept responsibility for quality of own work. • Participate in OHS practices. • Apply food safety practices. • Plan to meet required work outcomes of self and team. • Monitor own work. • Maintain own work efficiency. • Keep the work area clean and tidy at all times.
Learning	<ul style="list-style-type: none"> • Assess own competencies in meeting job requirements. • Listen to feedback and advice of supervisors. • Identify own skill requirements and seek skill development if required. • Attend training or skill development activities. • Ask questions to expand own knowledge.
Technology	<ul style="list-style-type: none"> • Use work tools, machines and equipment safely and effectively. • Perform minor maintenance on machinery in accordance with workplace practice. • Use manual handling technologies in the workplace.

Packaging Rules

This Qualification requires the achievement of **thirteen (13)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of eight (8) Units coded FDF.

Five (5) Core Units

Eight (8) Elective Units

Elective selection must include:

- Five (5) Group A elective Units

Three (3) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units
- A maximum of two (2) Units from this Training Package, other endorsed Training Packages and accredited courses that are packaged at Certificate I level (maximum 1 Unit), Certificate II level (maximum 2 Units) and Certificate III level (maximum 1 Unit)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete all five (5) core Units:

FDFFS2001A	Implement the food safety program and procedures #
FDFOHS2001A	Participate in OHS processes
FDFOP2063A	Apply quality systems and procedures
FDFOP2064A	Provide and apply workplace information
MSAENV272B	Participate in environmentally sustainable work practices

In the case where this Qualification is to be applied in a work environment where food is processed for non-human consumption, such as pet food and stock feed or other situations where human food safety skills are not required, then this Unit may be replaced by **FDFOP2062A Apply work procedures to maintain integrity of product**

ELECTIVE UNITS

GROUP A

Select a minimum of five (5) Group A Sector Specialist and Cross Sector elective Units

Sector Specialist Units
Baking

FDFBK2001A	Operate a cooling and slicing process
FDFBK2002A	Operate a pastry forming and filling process
FDFBK2003A	Manufacture rye crisp breads
FDFBK2004A	Manufacture wafer products
FDFBK2005A	Operate a doughnut making process
FDFBK2006A	Operate a griddle production process
FDFBK2007A	Operate a pastry production process
FDFOP2024A	Operate a cooling, slicing and wrapping process
FDFOP2055A	Freeze dough
SIRRMER004A	Prepare and display bakery products* <i>SIRRFSA001A Apply retail food safety practices</i>
Beverages	
FDFBV2001A	Operate a deaeration, mixing and carbonation process
FDFBV2002A	Manufacture coffee (roast and ground)
FDFBV2003A	Operate an ice manufacturing process
Confectionery	
FDFCON2001A	Examine raw ingredients used in confectionery
FDFCON2002A	Operate a boiled confectionery process
FDFCON2003A	Operate a chocolate conching process
FDFCON2004A	Operate a chocolate depositing or moulding process
FDFCON2005A	Operate a confectionery depositing process
FDFCON2006A	Operate a granulation and compression process
FDFCON2007A	Operate a panning process
FDFCON2008A	Operate a chocolate refining process
FDFCON2009A	Operate a starch moulding process
Dairy processing	
FDFDP2001A	Operate a butter churning process
FDFDP2002A	Operate a butter oil process* <i>FDFOP2043A Operate an homogenising process OR FDFDP2001A Operate a butter churning process</i>
FDFDP2003A	Operate a curd production and cutting process
FDFDP2004A	Operate a cooling and hardening process

FDFDP2005A	Operate a cheese pressing and moulding process
FDFDP2006A	Operate a fermentation process
Grocery products and supplies	
FDFGPS2001A	Operate a bleaching process
FDFGPS2002A	Operate a complecting process
FDFGPS2003A	Operate a deodorising process
FDFGPS2004A	Operate a flake preparation process
FDFGPS2005A	Operate a fractionation process
FDFGPS2006A	Operate a hydrogenation process
FDFGPS2007A	Operate an interesterification process
FDFGPS2008A	Operate a neutralisation process
FDFGPS2009A	Operate a soap splitting process
FDFGPS2010A	Operate a winterisation process
FDFGPS2011A	Operate a creamed honey manufacture process
Grain processing	
FDFGR2001A	Operate a liquid, mash or block stockfeed process
FDFGR2002A	Understand mill operations and technologies
FDFGR2003A	Operate a grain conditioning process
FDFGR2004A	Operate a grain cleaning process
FDFGR2005A	Operate a purification process
FDFGR2006A	Operate a scalping and grading process
FDFGR2007A	Operate a scratch and sizing process
FDFGR2008A	Operate a break roll process
FDFGR2009A	Operate a pelleting process
FDFGR2010A	Handle grain in a storage area
FDFGR2011A	Receive grain for malting* <i>FDFGR2010A Handle grain in a storage area</i>
FDFGR2012A	Prepare malted grain* <i>FDFGR2010A Handle grain in a storage area</i>
FDFGR2013A	Blend and dispatch malt
AHCBAC204A	Prepare grain storages
TLIJ2004A	Implement grain monitoring measures

Fruit and vegetables	
FDFV2001A	Apply hydro-cooling process to fresh produce
Poultry	
FDFPO2001A	Operate a dicing, stripping or mincing process
FDFPO2002A	Operate an evisceration process
FDFPO2003A	Grade carcass
FDFPO2004A	Harvest edible offal
FDFPO2005A	Operate a marinade injecting process
FDFPO2006A	Operate a washing and chilling process
FDFPO2007A	Operate the bird receipt and hanging process
FDFPO2008A	Operate a stunning, killing and defeathering process
FDFPO2009A	Work in an egg grading floor
FDFPO2010A	Operate egg grading and packing floor equipment* <i>FDFPO2009A Work in an egg grading floor</i>
MTMP2006B	Apply animal welfare and handling requirements
MTMP2197C	Clean after operations – boning room

Cross Sector Units	
FDFOP1003A	Carry out manual handling tasks
FDFOP2001A	Work effectively in the food processing industry
FDFOP2002A	Inspect and sort materials and product
FDFOP2003A	Clean equipment in place
FDFOP2004A	Clean and sanitise equipment
FDFOP2005A	Work in a socially diverse environment
FDFOP2006A	Operate a bulk dry goods transfer process
FDFOP2007A	Work in a freezer storage area
FDFOP2008A	Operate a bulk liquid transfer process
FDFOP2009A	Load and unload tankers
FDFOP2010A	Work with temperature controlled stock
FDFOP2011A	Conduct routine maintenance
FDFOP2012A	Maintain food safety when loading, unloading and transporting food

Cross Sector Units	
FDFOP2013A	Apply sampling procedures
FDFOP2014A	Participate in sensory analyses
FDFOP2015A	Apply principles of statistical process control* <i>FDFOP2061A Use numerical applications in the workplace</i>
FDFOP2016A	Work in a food handling area for non-food handlers
FDFOP2017A	Operate a blending, sieving and bagging process
FDFOP2018A	Operate a case packing process
FDFOP2019A	Fill and close product in cans
FDFOP2020A	Operate a form, fill and seal process
FDFOP2021A	Operate a fill and seal process
FDFOP2022A	Operate a high speed wrapping process
FDFOP2023A	Operate a packaging process
FDFOP2025A	Manufacture extruded and toasted products
FDFOP2026A	Operate a forming or shaping process
FDFOP2027A	Dispense non-bulk ingredients
FDFOP2028A	Operate a mixing or blending process
FDFOP2029A	Operate a baking process
FDFOP2030A	Operate a process control interface
FDFOP2031A	Operate a coating application process
FDFOP2032A	Work in a clean room environment* <i>FDFFS2001A Implement the food safety program and procedures</i> <i>OR</i> <i>FDFPH2001A Apply Good Manufacturing Practice procedures</i>
FDFOP2033A	Operate a depositing process
FDFOP2034A	Operate an evaporation process
FDFOP2035A	Operate an enrobing process
FDFOP2036A	Operate an extrusion process
FDFOP2037A	Operate a filtration process
FDFOP2038A	Operate a grinding process
FDFOP2039A	Operate a frying process
FDFOP2040A	Operate a heat treatment process
FDFOP2041A	Operate a mixing or blending and cooking process

Cross Sector Units	
FD2042A	Operate a drying process
FD2043A	Operate an homogenising process
FD2044A	Operate a retort process
FD2045A	Operate pumping equipment
FD2046A	Operate a production process
FD2047A	Operate a portion saw
FD2048A	Pre-process raw materials
FD2049A	Operate a reduction process
FD2050A	Operate a separation process
FD2051A	Operate a spreads production process
FD2052A	Operate a chocolate tempering process
FD2053A	Operate a washing and drying process
FD2054A	Operate a water purification process
FD2056A	Operate a freezing process
FD2057A	Operate a membrane process
FD2058A	Operate a holding and storage process
FD2059A	Operate a continuous freezing process
FD2060A	Operate an automated cutting process
FD2061A	Use numerical applications in the workplace
FD2066A	Operate a wort production process* <i>FD2071A Identify key stages and beer production equipment in a brewery</i>
FD2067A	Operate a brewery fermentation process* <i>FD2071A Identify key stages and beer production equipment in a brewery</i>
FD2068A	Operate a beer maturation process* <i>FD2071A Identify key stages and beer production equipment in a brewery</i>
FD2069A	Operate a beer filtration process* <i>FD2071A Identify key stages and beer production equipment in a brewery</i>
FD2070A	Operate a bright beer tank process* <i>FD2071A Identify key stages and beer production equipment</i>

Cross Sector Units	
	<i>in a brewery</i>
FDFOP2071A	Identify key stages and beer production equipment in a brewery
FDFOP2072A	Operate a beer filling process
FDFOP2073A	Operate a beer packaging process
FDFOP2074A	Prepare and monitor beer yeast propagation processes
FDFPPL2001A	Participate in work teams and groups
FDFSUG222A	Operate a waste water treatment system
MSL973001A	Perform basic tests
MTMPSR201C	Vacuum pack product
MTMPSR203A	Sharpen knives
PMBPROD211B	Operate blow moulding equipment
PMBPROD270B	Operate injection blow moulding equipment
TLIA2009A	Complete and check import/export documentation
TLIA2014A	Use product knowledge to complete work operations
TLIA2021A	Despatch stock
TLIA4025A	Regulate temperature controlled stock
TLID2003A	Handle dangerous goods/hazardous substances
TLID2004A	Load and unload goods/cargo
TLID2010A	Operate a forklift
TLIK2010A	Use infotechnology devices in the workplace

GROUP B

BSBITU201A	Produce simple word processed documents
BSBITU202A	Create and use spreadsheets
BSBWOR204A	Use business technology
FDFSUG218A	Operate a boiler - basic
HLTFA201B	Provide basic emergency life support
MSS402010A	Manage the impact of change on own work
MSS402001A	Apply competitive systems and practices
MSS402002A	Sustain process improvements
MSS402021A	Apply Just in Time procedures

MSS402030A	Apply cost factors to work practices
MSS402031A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy
SIRXFIN201	Balance and secure point-of-sale terminal
SIRXFIN002A	Perform retail finance duties
SIRXMER201	Merchandise products
SIRXRSK001A	Minimise theft
SIRXSLS002A	Advise on products and services
SITHFAB012B	Prepare and serve espresso coffee

FDF20211 Certificate II in Pharmaceutical Manufacturing

Modification History

This Qualification supersedes and is equivalent to FDF20210 Certificate II in Pharmaceutical Manufacturing.

September 2012: Replacement of superseded imported Units.

April 2012: Update of imported SUG Units to new FDFSUG Units. Minor typographical corrections.

November 2011: Update to imported Units, including one non-equivalent Unit. Minor edits.

Description

This Qualification covers the Pharmaceutical Manufacturing specialisation.

Job Roles

The Certificate II in Pharmaceutical Manufacturing targets those working within production or production support roles, such as packing within pharmaceutical manufacturing environments. This Qualification is designed for application in supervised environments where the work is predictable with some basic problem solving requirements.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Many Units in this Qualification assume a basic level of mathematics equivalent to a school sector Year 10 standard. If a student does not possess this level of mathematics then the Unit FDFOP2061A Use numerical applications in the workplace should be selected as part of this Qualification.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF10110 Certificate I in Food Processing or FDF10210 Certificate I in Pharmaceutical Manufacturing
- direct entry
- limited vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake FDF30210 Certificate III in Pharmaceutical Manufacturing or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, an individual Unit of Competency may specify relevant licensing, legislative and/or regulatory requirements. In addition, all work must comply with Good Manufacturing Practice, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

The following table contains a summary of the employability skills as identified by the Pharmaceutical Manufacturing industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete work forms and required written documentation. • Use communication and information technologies to support work operations. • Demonstrate effective and appropriate interpersonal skills. • Interpret and apply workplace procedures and instructions. • Share workplace information. • Communicate information about problems with work. • Communicate information relating to OHS.
Teamwork	<ul style="list-style-type: none"> • Work as part of a team. • Provide assistance to others in the work area. • Identify own role and responsibilities within a team. • Identify team goals. • Share work-related information. • Maintain health and safety of work area for self and others.
Problem-solving	<ul style="list-style-type: none"> • Identify and report any workplace hazards. • Identify workplace problems and make contributions to their solution. • Identify health and safety issues relating to work in the food industry. • Apply knowledge of materials, product purpose and processes to work operations. • Check performance of machines and equipment and identify signs of faulty operations. • Monitor workplace activities and identify and report non-compliances.
Initiative and enterprise	<ul style="list-style-type: none"> • Provide feedback on procedures and processes. • Gather and interpret information to support safe and efficient work. • Ask questions regarding requirements and expectations. • Make suggestions for continuous improvement. • Inspect quality of work on an ongoing basis. • Record basic information on the quality and other indicators of work outcomes.

<p>Planning and organising</p>	<ul style="list-style-type: none"> • Identify work requirements and work load priorities. • Plan work activities to meet daily work requirements. • Direct items to the correct area for further processing. • Identify and use relevant personal protective equipment. • Organise work area to maintain housekeeping standards. • Select and organise relevant equipment and tools. • Identify and report issues affecting ability to meet work outcomes.
<p>Self-management</p>	<ul style="list-style-type: none"> • Understand own work activities. • Identify personal responsibilities. • Accept responsibility for quality of own work. • Follow OHS and food safety practices. • Plan to meet required work outcomes of self and team. • Monitor own work. • Maintain own work efficiency. • Keep the work area clean and tidy at all times.
<p>Learning</p>	<ul style="list-style-type: none"> • Assess own competencies in meeting job requirements. • Listen to feedback and advice of supervisors. • Identify own skill requirements and seek skill development if require. • Attend training or skill development activities. • Ask questions to expand own knowledge.
<p>Technology</p>	<ul style="list-style-type: none"> • Use work tools, machines and equipment safely and effectively. • Perform minor maintenance on machinery in accordance with workplace practice. • Use manual handling technologies in the workplace.

Packaging Rules

This Qualification requires the achievement of **twelve (12)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of seven (7) Units coded FDF.

Four (4) Core Units

Eight (8) Elective Units

Elective selection must include:

- Five (5) Group A elective Units

Three (3) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units
- Units from this Training Package, any other nationally endorsed Training Package and accredited course that are packaged at Certificate I level (maximum 1 Unit), Certificate II (maximum 2 Units), and Certificate III level (maximum 1 Unit)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete the following four (4) Units:

FDFOHS2001A	Participate in OHS processes
FDFOP2064A	Provide and apply workplace information
FDFPH2001A	Apply Good Manufacturing Practice procedures
MSAENV272B	Participate in environmentally sustainable work practices

ELECTIVE UNITS

GROUP A

Select a minimum of five (5) Units from the Sector Specialist and Cross Sector Units below. A minimum of one (1) pharmaceutical manufacturing specialist Unit coded FDFPH must be included in the selection.

Sector Specialist Units	
FDFPH2002A	Operate a concentration process
FDFPH2003A	Operate an extraction process
FDFPH2004A	Operate a separation process using chromatography* <i>FDFOP2032A Work in a clean room environment</i>

Sector Specialist Units	
FDFPH2005A	Operate an aseptic fill and seal process* <i>FDFOP2032A Work in a clean room environment</i>
FDFPH2006A	Operate an aseptic form, fill and seal process* <i>FDFOP2032A Work in a clean room environment</i>
FDFPH2007A	Coordinate a label store
FDFPH2008A	Operate a compressing process
FDFPH2009A	Dispense pharmaceutical raw materials
FDFPH2010A	Operate an encapsulation process
FDFPH2011A	Operate a granulation process
FDFPH2012A	Operate a liquid manufacturing process
FDFPH2013A	Operate a tablet coating process
FDFPH2014A	Operate a terminal sterilisation process
Cross Sector Units	
FDFOP1003A	Carry out manual handling tasks
FDFOP2001A	Work effectively in the food processing industry
FDFOP2002A	Inspect and sort materials and product
FDFOP2003A	Clean equipment in place
FDFOP2004A	Clean and sanitise equipment
FDFOP2006A	Operate a bulk dry goods transfer process
FDFOP2007A	Work in a freezer storage area
FDFOP2008A	Operate a bulk liquid transfer process
FDFOP2009A	Load and unload tankers
FDFOP2010A	Work with temperature controlled stock
FDFOP2011A	Conduct routine maintenance
FDFOP2012A	Maintain food safety when loading, unloading and transporting food
FDFOP2013A	Apply sampling procedures
FDFOP2014A	Participate in sensory analyses
FDFOP2015A	Apply principles of statistical process control* <i>FDFOP2061A Use numerical applications in the workplace</i>
FDFOP2016A	Work in a food handling area for non-food handlers

Sector Specialist Units	
FDFOP2017A	Operate a blending, sieving and bagging process
FDFOP2018A	Operate a case packing process
FDFOP2019A	Fill and close product in cans
FDFOP2020A	Operate a form, fill and seal process
FDFOP2021A	Operate a fill and seal process
FDFOP2022A	Operate a high speed wrapping process
FDFOP2023A	Operate a packaging process
FDFOP2024A	Operate a cooling, slicing and wrapping process
FDFOP2025A	Manufacture extruded and toasted products
FDFOP2026A	Operate a forming or shaping process
FDFOP2027A	Dispense non-bulk ingredients
FDFOP2028A	Operate a mixing or blending process
FDFOP2029A	Operate a baking process
FDFOP2030A	Operate a process control interface
FDFOP2031A	Operate a coating application process
FDFOP2032A	Work in a clean room environment* <i>FDFFS2001A Implement food safety program and procedures OR FDFPH2001A Apply Good Manufacturing Practice procedures</i>
FDFOP2033A	Operate a depositing process
FDFOP2034A	Operate an evaporation process
FDFOP2035A	Operate an enrobing process
FDFOP2036A	Operate an extrusion process
FDFOP2037A	Operate a filtration process
FDFOP2038A	Operate a grinding process
FDFOP2039A	Operate a frying process
FDFOP2040A	Operate a heat treatment process
FDFOP2041A	Operate a mixing or blending and cooking process
FDFOP2042A	Operate a drying process
FDFOP2043A	Operate an homogenising process
FDFOP2044A	Operate a retort process
FDFOP2045A	Operate pumping equipment

Sector Specialist Units	
FDFOP2046A	Operate a production process
FDFOP2047A	Operate a portion saw
FDFOP2048A	Pre-process raw materials
FDFOP2049A	Operate a reduction process
FDFOP2050A	Operate a separation process
FDFOP2051A	Operate a spreads production process
FDFOP2052A	Operate a chocolate tempering process
FDFOP2053A	Operate a washing and drying process
FDFOP2054A	Operate a water purification process
FDFOP2055A	Freeze dough
FDFOP2056A	Operate a freezing process
FDFOP2057A	Operate a membrane process
FDFOP2058A	Operate a holding and storage process
FDFOP2059A	Operate a continuous freezing process
FDFOP2060A	Operate an automated cutting process
FDFOP2061A	Use numerical applications in the workplace
FDFPPL2001A	Participate in work teams and groups
FDFSUG222A	Operate a waste water treatment system
MSL973001A	Perform basic tests
MTMPSR203A	Sharpen knives
MTMPSR201C	Vacuum pack product
PMBPROD211B	Operate blow moulding equipment
PMBPROD270B	Operate injection blow moulding equipment
TLIA2009A	Complete and check import/export documentation
TLIA2014A	Use product knowledge to complete work operations
TLIA2021A	Despatch stock
TLIA4025A	Regulate temperature controlled stock
TLID2003A	Handle dangerous goods/hazardous substances
TLID2004A	Load and unload goods/cargo
TLID2010A	Operate a forklift
TLIK2010A	Use infotechnology devices in the workplace

GROUP B

FDFOP2005A	Work in a socially diverse environment
FDFSUG218A	Operate a boiler - basic
BSBITU201A	Produce simple word processed documents
BSBITU202A	Create and use spreadsheets
BSBWOR204A	Use business technology
HLTFA201B	Provide basic emergency life support
MSS402010A	Manage the impact of change on own work
MSS402001A	Apply competitive systems and practices
MSS402002A	Sustain process improvements
MSS402021A	Apply Just in Time procedures
MSS402030A	Apply cost factors to work practices
MSS402031A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy
SIRXFIN201	Balance and secure point-of-sale terminal
SIRXFIN002A	Perform retail finance duties
SIRXMER201	Merchandise products
SIRXRSK001A	Minimise theft
SIRXSLS002A	Advise on products and services

FDF20411 Certificate II in Wine Industry Operations

Modification History

This qualification supersedes and is equivalent to FDF20403 Certificate II in Food Processing (Wine).

September 2012: Replacement of superseded imported Units.

April 2012: Update of imported SUG Units to new FDFSUG Units.

Description

This Qualification provides vocational skills for work in the wine industry. A range of specialist electives are included covering skills used in the following wine industry operational areas:

- bottling and packaging
- cellar door sales
- cellar operations
- laboratory
- warehousing
- wine grape growing.

Testamur issued for this Qualification are to be titled ‘Certificate II in Wine Industry Operations’.

An additional descriptor in brackets after the Qualification title e.g. FDF20411 Certificate II in Wine Industry Operations (Cellar Operations) may be added by a Registered Training Organisation (RTO). Any additional descriptor should reflect a minimum selection of at least five (5) specialist Units from one of the following Unit groups:

- bottling and packaging
- cellar door sales
- cellar operations
- laboratory
- warehousing
- wine grape growing.

Job Roles The FDF20411 Certificate II in Wine Industry Operations targets those working within a production or production support role. Job roles in the industry often vary in the degree of skill specialisation and the Qualification packaging rules reflect this diversity through allowing a choice of specialist electives in one specialisation area or a combination of grape growing, cellar operations, bottling and packaging, warehousing, laboratory and cellar door sales work.

This Qualification is designed for application in supervised environments where the work is predictable with some basic problem solving requirements.

Those performing a purely warehousing role in the wine production industry should consider the TLI21610 Certificate II in Warehousing Operations.

Those performing a purely laboratory operations role in the wine production industry should consider the MSL20109 Certificate II in Sampling and Measurement.

Those performing a purely cellar door role in the wine production industry should consider the SIT20207 Certificate II in Hospitality

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Many Units in this Qualification assume a basic level of mathematics equivalent to a school sector Year 10 standard. If a student does not possess this level of mathematics then the Unit FDFOP2061A Use numerical applications in the workplace, should be selected as part of this Qualification.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options, including on-the-job and work-based training, that support the development of competency.

Pathways Information

Pathways into the Qualification Pathways for candidates considering this Qualification include:

- FDF10111 Certificate I in Food Processing
- direct entry
- limited vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake a FDF30411 Certificate III in Wine Industry Operations with an industry specialisation according to the needs of the enterprise and higher level job functions.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, an individual Unit of Competency may specify relevant licensing, legislative and/or regulatory requirements.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate II in Wine Industry Operations

The following table contains a summary of the employability skills as identified by the wine industry for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete work forms and required written documentation • Use communication and information technologies to support work operations • Demonstrate effective and appropriate interpersonal skills • Interpret and apply workplace procedures and instructions • Share workplace information • Communicate information about problems with work • Communicate information relating to OHS.
Teamwork	<ul style="list-style-type: none"> • Work as part of a team • Provide assistance to others in the work area • Identify own role and responsibilities within a team • Identify team goals • Share work-related information • Maintain health and safety of work area for self and others.
Problem solving	<ul style="list-style-type: none"> • Identify and report any workplace hazards • Identify workplace problems and make contributions to their solution • Identify and apply health and safety issues relating to work in the wine industry • Apply knowledge of materials, product purpose and processes to work operations • Check performance of machines and equipment and identify signs of faulty operations • Monitor workplace activities and identify and report non-compliances.
Initiative and enterprise	<ul style="list-style-type: none"> • Provide feedback on procedures and processes • Gather and interpret information to support safe and efficient work • Ask questions regarding requirements and expectations • Make suggestions for continuous improvement • Inspect quality of work on an ongoing basis • Record basic information on the quality and other indicators of work outcomes.

Planning and organising	<ul style="list-style-type: none"> • Identify work requirements and work load priorities • Plan work activities to meet daily work requirements • Direct items to the correct area for further processing • Identify and use relevant personal protective equipment • Organise work area to maintain housekeeping standards • Select and organise relevant equipment and tools • Identify and report issues affecting ability to meet work outcomes,
Self-management	<ul style="list-style-type: none"> • Understand own work activities • Identify personal responsibilities • Accept responsibility for quality of own work • Participate in OHS practices • Apply food safety practices • Plan to meet required work outcomes of self and team • Monitor own work • Maintain own work efficiency • Keep the work area clean and tidy at all times.
Learning	<ul style="list-style-type: none"> • Assess own competencies in meeting job requirements • Listen to feedback and advice of supervisors • Identify own skill requirements and seek skill development if required • Attend training or skill development activities • Ask questions to expand own knowledge.
Technology	<ul style="list-style-type: none"> • Use work tools, machines and equipment safely and effectively • Perform minor maintenance on machinery in accordance with workplace practice • Use manual handling technologies in the workplace.

Packaging Rules

This Qualification requires the achievement of **seventeen (17)** Units of Competency in accordance with the following rules.

- **Five (5)** core Units of Competency
- **Twelve (12)** elective Units of Competency.

Elective selection must include:

- **Five (5)** Group A Wine specialist elective Units
- **Four (4)** Group B Wine specialist elective Units.

Elective Units from Group A and Group B may be a combination of Units selected from any of the wine industry operational Unit areas listed below:

- bottling and packaging
- cellar door sales
- cellar operations
- laboratory
- warehousing
- wine grape growing.

Three (3) remaining elective Units may be selected from:

- Group A Wine specialist elective Units, not previously selected
- Group B Wine specialist elective Units, not previously selected
- Group C General elective Units, listed below
- A maximum of three (3) Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate II level, Certificate I level (maximum 1 Unit) and Certificate III level (maximum 1 Unit).

Prerequisite Units

Units marked with an asterisk (*) require completion of prerequisite Units identified under the Unit. Prerequisite Units count towards the total Units required for the Qualification.

CORE UNITS

- Complete the following five (5) Units.

FDFFS2001A	Implement the food safety program and procedures
FDFOHS2001A	Participate in OHS processes
FDFOP2063A	Apply quality systems and procedures
FDFOP2064A	Provide and apply workplace information

MSAENV272B	Participate in environmentally sustainable work practices
------------	---

ELECTIVE UNITS

- Select a total of **twelve (12)** elective Units from the following groups.

Elective Units may be selected from one specialist wine industry operational Unit area or from multiple Unit areas.

GROUP A: Wine specialist elective Units

- Select a minimum of five (5) Units.

Bottling and packaging

FDFBP2001A	Operate the bottle supply process
FDFBP2002A	Operate the carton erection process
FDFBP2003A	Operate the carton packing process
FDFBP2005A	Operate the electronic coding process
FDFBP2009A	Operate the bottle capsuling process
FDFBP2010A	Operate manual bottling and packaging processes
FDFLAB2003A	Perform basic packaging tests and inspections* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFOP2004A	Clean and sanitise equipment

Cellar door sales

BSBCUS201B	Deliver a service to customers
SIRXCCS201	Apply point-of-sale handling procedures
SIRXMER201	Merchandise products
SIRXRSK001A	Minimise theft
SITHCCC001B	Organise and prepare food <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHFAB003A	Serve food and beverage to customers* <i>SITXOHS002A Follow workplace hygiene procedures</i>

SITHFAB004A	Provide food and beverage service* <i>SITHFAB003A Serve food and beverage to customers</i> <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHFAB009A	Provide responsible service of alcohol
SITHFAB011A	Develop and update food and beverage knowledge
SITHFAB012B	Prepare and serve espresso coffee
SITTIND001B	Develop and update tourism industry knowledge
SITXCCS001B	Provide visitor information
SITXFIN001A	Process financial transactions
SITXOHS002A	Follow workplace hygiene procedures

Cellar operations

FDFCEL2001A	Perform oak handling activities* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2003A	Operate the ion exchange process* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2004A	Perform single column lees stripping (continuous still brandy) operations* <i>FDFOP2004A Clean and sanitise equipment</i> <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i>
FDFCEL2009A	Perform first distillation (pot still brandy) operations* <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i>
FDFCEL2011A	Perform heat exchange operations
FDFCEL2015A	Perform must draining operations* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2016A	Operate the crushing process* <i>FDFCEL2019A Carry out transfer operations</i>

FDFCEL2017A	Prepare and make additions and finings
FDFCEL2018A	Carry out inert gas handling operations
FDFCEL2019A	Carry out transfer operations
FDFCEL2020A	Prepare and wax tanks

Laboratory

FDFLAB2011A	Use basic laboratory equipment
MSL912001A	Work within a laboratory_field workplace (induction)
MSL922001A	Record and present data
MSL933001A	Maintain the laboratory_field workplace fit for purpose
MSL943002A	Participate in laboratory_field workplace safety
MSL952001A	Collect routine site samples
MSL952002A	Handle and transport samples or equipment
MSL972001A	Conduct routine site measurements

Warehousing

TLIA2011A	Package goods
TLIA2012A	Pick and process orders
TLIA2022A	Participate in stocktakes
TLID1001A	Shift materials safely using manual handling methods
TLID2004A	Load and unload goods/cargo
TLID2010A	Operate a forklift
TLIK2010A	Use infotechnology devices in the workplace

Wine grape growing

FDFWGG2001A	Bench graft vines
FDFWGG2002A	Carry out potting operations

FDFWGG2003A	Hand prune vines
FDFWGG2004A	Undertake irrigation systems maintenance activities
FDFWGG2008A	Train vines
FDFWGG2011A	Install irrigation components
FDFWGG2013A	Deliver injection requirements
FDFWGG2015A	Support mechanical harvesting operations* <i>AHCMOM202A Operate tractors</i> <i>FDFWGG2018A Operate vineyard equipment</i>
FDFWGG2019A	Perform vertebrate pest control activities
FDFWGG2021A	Operate nursery cold storage facilities
FDFWGG2022A	Take and process vine cuttings
FDFWGG2023A	Carry out basic canopy maintenance
FDFWGG2024A	Pick grapes by hand
FDFWGG2025A	Plant vines by hand
AHCCHM101A	Follow basic chemical safety rules
AHCCHM201A	Apply chemicals under supervision
AHCSOL201A	Determine basic properties of soil and/or growing media

GROUP B: Wine specialist elective Units

- Select a minimum of **four (4)** Units.

Bottling and packaging

FDFBP2004A	Operate the bottle sealing process
FDFBP2006A	Operate traditional sparkling wine processes
FDFBP2007A	Operate the tirage and transfer process
FDFBP2008A	Perform packaging equipment changeover
FDFBP2011A	Operate the palletising process

FDFOP2003A	Clean equipment in place
FDFOP2011A	Conduct routine maintenance
FDFOP2030A	Operate a process control interface

Cellar door sales

FDFCD2001A	Conduct winery and or site tours* <i>FDFCD2002A Promote wine tourism information*</i> <i>SIRXCCS202 Interact with customers</i>
FDFCD2002A	Promote wine tourism information* <i>SIRXCCS202 Interact with customers</i>
FDFCD2003A	Evaluate wines (standard)
FDFCD2004A	Perform cellar door stock control procedure* <i>FDFCD2003A Evaluate wines (standard)</i>
FDFCD2005A	Sell cellar door products and services* <i>FDFCD2003A Evaluate wines (standard)</i> <i>SIRXCCS202 Interact with customers</i> <i>SITHFAB009A Provide responsible service of alcohol</i>
FDFCD2006A	Conduct a standard product tasting* <i>FDFCD2003A Evaluate wines (standard)</i> <i>SIRXCCS202 Interact with customers</i> <i>SITHFAB009A Provide responsible service of alcohol</i>
SIRXCCS202	Interact with customers
SIRXFIN201	Balance and secure point-of-sale terminal
SIRXICT303	Operate retail information technology systems

Cellar operations

FDFCEL2002A	Perform fermentation operations* <i>FDFCEL2017A Prepare and make additions and finings</i>
FDFCEL2005A	Operate the pressing process*

	<i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2006A	Operate clarification by separation (centrifugation) process* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2007A	Prepare and monitor wine cultures * <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2008A	Perform dual column distillation (continuous still brandy) operations* <i>FDFCEL2004A Perform single column lees stripping (continuous still brandy) operations*</i> <i>FDFOP2004A Clean and sanitise equipment</i> <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i> <i>FDFCEL2012A Handle spirits*</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2010A	Operate the fine filtration process
FDFCEL2012A	Handle spirits* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2013A	Operate the pressure leaf filtration process* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2014A	Operate the rotary vacuum filtration process* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL3001A	Perform second distillation (pot still brandy) operations* <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i>

Laboratory

FDFLAB2001A	Perform basic analytical tests* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2002A	Perform basic microbiological tests*

	<i>FDFLAB2012A Maintain aseptic environment</i> <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2004A	Prepare laboratory solutions and stains* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2005A	Prepare and pour culture media* <i>FDFLAB2012A Maintain aseptic environment</i> <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2006A	Record laboratory data
FDFLAB2007A	Standardise laboratory solutions* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2008A	Analyse laboratory data* <i>FDFLAB2006A Record laboratory data</i>
FDFLAB2010A	Prepare product or show samples* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2012A	Maintain aseptic environment* <i>FDFLAB2011A Use basic laboratory equipment</i>

Warehousing

TLIA2009A	Complete and check import/export documentation
TLIA2021A	Despatch stock
TLIA3017A	Identify products and store to specifications
TLIA3038A	Control and order stock
TLIA3039A	Receive and store stock
TLIB2009A	Check conveyor operational status
TLID1002A	Shift a load using manually-operated equipment
TLID2003A	Handle dangerous goods/hazardous substances
TLID2022A	Conduct weighbridge operations
TLIP2029A	Prepare and process financial documents

Wine grape growing

FDFWGG2005A	Maintain callusing environment
FDFWGG2006A	Obtain and process rootlings
FDFWGG2007A	Tend containerised nursery plants
FDFWGG2009A	Operate specialised canopy management equipment* <i>AHCMOM202A Operate tractors</i>
FDFWGG2010A	Field graft vines
FDFWGG2012A	Identify and treat nursery plant disorders
FDFWGG2014A	Operate the irrigation system
FDFWGG2016A	Install and maintain vine trellis
FDFWGG2017A	Recognise disorders and identify pests and diseases
FDFWGG2018A	Operate vineyard equipment
FDFWGG2020A	Carry out hot water treatment
FDFWGG3013A	Operate spreading and seeding equipment* <i>AHCMOM202A Operate tractors</i>
AHCARB205A	Operate and maintain chainsaws
AHCCHM303A	Prepare and apply chemicals
AHCCHM304A	Transport, handle and store chemicals
AHCMOM202A	Operate tractors
HLTFA301C	Apply first aid

GROUP C: General elective Units

- Select a maximum of three (3) Units.

FDFOP1003A	Carry out manual handling tasks
FDFOP2005A	Work in a socially diverse environment
FDFOP2013A	Apply sampling procedures

FDFOP2016A	Work in a food handling area for non-food handlers
FDFOP2061A	Use numerical applications in the workplace
FDFOP2065A	Work in confined spaces in the food and beverage industries* <i>FDFOHS2001A Participate in OHS processes</i>
FDFPPL2001A	Participate in work teams and groups
FDFSUG218A	Operate a boiler - basic
FDFSUG222A	Operate a waste water treatment system
FDFWIN2001A	Perform effectively in a wine industry workplace
FDFWIN2002A	Identify and control risks in own work
AHCINF204A	Fabricate and repair metal or plastic structures
BSBITU201A	Produce simple word processed documents
BSBWOR204A	Use business technology
MEM18002B	Use power tools/hand held operations
MSACMT270A	Use sustainable energy practices
MSL973001A	Perform basic tests
MSS402002A	Sustain process improvements
MSS402010A	Manage the impact of change on own work
MSS402021A	Apply Just in Time procedures
MSS402030A	Apply cost factors to work practices
MSS402031A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations

MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy
SITXCOM001A	Work with colleagues and customers

FDF20510 Certificate II in Retail Baking Assistance

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Update to imported Units, minor edits.

Description

This Qualification covers the retail baking specialisation within the food processing industry.

Job Roles

The Certificate II in Retail Baking Assistance targets those working within a retail baking environments undertaking non-trade related work or working as a trade assistant. This Qualification is designed for application in supervised environments where the work is primarily predictable with some basic problem solving requirements. Typically this role would include some predetermined, routine baking functions with customer service and general preparation and cleaning skills.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Some Units imported into this Qualification from the SIR07 Retail Services and SIT07 Tourism, Hospitality and Events Training Packages require prerequisite Units in hygiene and food safety from the source Training Packages. These prerequisite Units have not been imported as they duplicate food safety Units already required as core skills within the Food Processing Training Package Qualifications. If selecting these Units, the RTO should facilitate recognition of the FDF Units as suitable prerequisite Unit alternatives.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF10111 Certificate I in Food Processing
- direct entry
- limited vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake FDF30510 Certificate III in Retail Baking (Cake and Pastry), FDF30610 Certificate III in Retail Baking (Bread) or FDF30710 Certificate III in Retail Baking (Combined).

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate II in Retail Baking Assistance

The following table contains a summary of the employability skills as identified by the retail baking industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete work forms and required written documentation. • Use communication and information technologies to support work operations. • Demonstrate effective and appropriate interpersonal skills. • Interpret and apply workplace procedures and instructions. • Share workplace information. • Communicate information about problems with work. • Communicate information relating to OHS.
Teamwork	<ul style="list-style-type: none"> • Work as part of a team. • Provide assistance to others in the work area. • Identify own role and responsibilities within a team. • Identify team goals. • Share work-related information. • Maintain health and safety of work area for self and others.
Problem-solving	<ul style="list-style-type: none"> • Identify and report any workplace hazards. • Identify workplace problems and make contributions to their solution. • Identify health and safety issues relating to work in the retail baking industry. • Apply food safety procedures. • Apply knowledge of materials, product purpose and processes to work operations. • Check performance of machines and equipment and identify signs of faulty operations. • Monitor workplace activities and identify and report non-compliances.
Initiative and enterprise	<ul style="list-style-type: none"> • Provide feedback on procedures and processes. • Gather and interpret information to support safe and efficient work. • Ask questions regarding requirements and expectations. • Make suggestions for continuous improvement. • Inspect quality of work on an ongoing basis. • Record basic information on the quality and other indicators of work outcomes.

<p>Planning and organising</p>	<ul style="list-style-type: none"> • Identify work requirements and work load priorities. • Plan work activities to meet daily work requirements. • Direct items to the correct area for further processing. • Identify and use relevant personal protective equipment. • Organise work area to maintain housekeeping standards. • Select and organise relevant equipment and tools. • Identify and report issues affecting ability to meet work outcomes.
<p>Self-management</p>	<ul style="list-style-type: none"> • Understand own work activities. • Identify personal responsibilities. • Accept responsibility for quality of own work. • Follow OHS and food safety practices. • Plan to meet required work outcomes of self and team. • Monitor own work. • Maintain own work efficiency. • Keep the work area clean and tidy at all times.
<p>Learning</p>	<ul style="list-style-type: none"> • Assess own competencies in meeting job requirements. • Listen to feedback and advice of supervisors. • Identify own skill requirements and seek skill development if required. • Attend training or skill development activities. • Ask questions to expand own knowledge.
<p>Technology</p>	<ul style="list-style-type: none"> • Use work tools, machines and equipment safely and effectively. • Perform minor maintenance on machinery in accordance with workplace practice. • Use manual handling technologies in the workplace.

Packaging Rules

This Qualification requires the achievement of **thirteen (13)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of eight (8) Units coded FDF.

Eight (8) Core Units

Five (5) Elective Units

Elective selection must include:

- Three (3) Group A elective Units

Two (2) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Units from this Training Package, any other nationally endorsed Training Package and accredited course that are packaged at Certificate I level (maximum 1 Unit) Certificate II level, and Certificate III level (maximum 1 Unit)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete all eight (8) core Units.

FDFFS2001A	Implement the food safety program and procedures
FDFOHS2001A	Participate in OHS processes
FDFOP2061A	Use numerical applications in the workplace
FDFOP2063A	Apply quality systems and procedures
FDFOP2064A	Provide and apply workplace information
FDFRB2004A	Provide production assistance for bread products
FDFRB2005A	Provide assistance in cake, pastry and biscuit production
MSAENV272B	Participate in environmentally sustainable work practices

GROUP A

Select a minimum of three (3) Group A Units. At least two (2) Units must start with the code FDFRB or FDFBK.

FDFBK2001A	Operate a cooling and slicing process
FDFBK2002A	Operate a pastry forming and filling process

FDFBK2005A	Operate a doughnut making process
FDFBK2006A	Operate a griddle production process
FDFBK2007A	Operate a pastry production process
FDFOP1003A	Carry out manual handling tasks
FDFOP2003A	Clean equipment in place
FDFOP2004A	Clean and sanitise equipment
FDFOP2005A	Work in a socially diverse environment
FDFOP2011A	Conduct routine maintenance
FDFOP2022A	Operate a high speed wrapping process
FDFPPL2001A	Participate in work teams and groups
FDFRB1001A	Finish products
FDFRB2001A	Form and fill pastry products
FDFRB2002A	Prepare fillings
FDFRB2003A	Produce meringue-based products
HLTFA301C	Apply first aid
SIRXFIN201	Balance and secure point-of-sale terminal
SIRXFIN002A	Perform retail finance duties
SIRXMER201	Merchandise products
SIRRMER004A	Prepare and display bakery products* <i>SIRRFSA001A Apply retail food safety practices</i>
SIRXRSK001A	Minimise theft
SIRXSLS002A	Advise on products and services
SITHFAB012B	Prepare and serve espresso coffee

FDF20911 Certificate II in Food Processing (Sales)

Modification History

This Qualification supersedes and is equivalent to FDF20910 Certificate II in Food Processing (Sales).

September 2012: Replacement of superseded imported Units.

April 2012: Update of imported SUG Units to new FDFSUG Units. Minor typographical corrections.

November 2011: Update to imported Units, including one non-equivalent Unit. Minor edits.

Description

This Qualification covers the sales specialisations within the food processing industry.

Job Roles

The Certificate II in Food Processing (Sales) targets those assisting in a sales capacity within a manufacturing or retail food processing environment. This Qualification is designed for application in supervised environments where the work is predictable with some basic problem solving requirements.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Some Units imported into this Qualification from the SIR07 Retail Services Training Package require a prerequisite Unit in food safety from the source Training Package. This prerequisite Unit has not been imported as it duplicates food safety Units already required as core skills within the Food Processing Training Package Qualifications. If selecting this Unit, the RTO should facilitate recognition of the FDF Units as a suitable prerequisite Unit alternative.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- Certificate I in Food Processing
- direct entry
- limited vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake the FDF30910 Certificate III in Food Processing (Sales) with an industry specialisation according to the needs of the enterprise and higher level job functions, or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, an individual Unit of Competency may specify relevant licensing, legislative and/or regulatory requirements. In addition, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate II in Food Processing (Sales)

The following table contains a summary of the employability skills as identified by the Food Processing industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete work forms and required written documentation. • Use communication and information technologies to support work operations. • Demonstrate effective and appropriate interpersonal skills to assess customer needs. • Interpret and apply workplace procedures and instructions. • Share workplace information. • Communicate information about problems with work. • Communicate information relating to OHS. • Establish rapport with customers and identify and use suitable communication mediums.
Teamwork	<ul style="list-style-type: none"> • Work as part of a team. • Provide assistance to others in the work area. • Identify own role and responsibilities within a team. • Identify team goals. • Share work-related information. • Maintain health and safety of work area for self and others. • Understand and communicate team processes that impact on product availability.
Problem-solving	<ul style="list-style-type: none"> • Identify and report any workplace hazards. • Identify workplace problems and make contributions to their solution. • Identify health and safety issues relating to work in the food industry. • Identify customer requirements and suitable service options. • Provide product and service advice to customers. • Apply knowledge of materials, product purpose and processes to work operations.
Initiative and enterprise	<ul style="list-style-type: none"> • Provide feedback on procedures and processes. • Gather and interpret information to support safe and efficient work. • Ask questions regarding customer requirements and expectations.

	<ul style="list-style-type: none"> • Make suggestions for continuous improvement. • Inspect quality of outcomes on an ongoing basis. • Seek to resolve customer issues.
Planning and organising	<ul style="list-style-type: none"> • Identify order priorities. • Plan work activities to meet daily work requirements. • Organise work area to maintain housekeeping standards. • Identify and report issues affecting ability to meet work outcomes. • Complete customer order information.
Self-management	<ul style="list-style-type: none"> • Understand own work activities. • Identify personal responsibilities. • Accept responsibility for quality of own work. • Follow OHS and food safety practices. • Plan to meet required work outcomes. • Monitor own work. • Maintain own work efficiency. • Keep the work area clean and tidy at all times. • Check accuracy of own documented information.
Learning	<ul style="list-style-type: none"> • Assess own competencies in meeting job requirements. • Listen to feedback and advice of supervisors. • Identify own skill requirements and seek skill development if required. • Attend training or skill development activities. • Ask questions to expand own knowledge. • Seek information to supply to customers.
Technology	<ul style="list-style-type: none"> • Use appropriate tools, machines and equipment safely and effectively. • Use information and communication technologies. • Understand production processes.

Packaging Rules

This Qualification requires the achievement of **thirteen (13)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of eight (8) Units coded FDF.

Six (6) Core Units

Seven (7) Elective Units

Elective selection must include:

- Two (2) Group A elective Units
- Two (2) Group B Specialist and Cross Sector elective Units

Three (3) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units below, not previously selected
- Group C elective Units
- Units from this Training Package, any other nationally endorsed Training Package and accredited course that are packaged at Certificate I level (maximum 1 Unit), Certificate II level (maximum 2 Units) and Certificate III level (maximum 1 Unit)

NOTE 1: Units packaged at Certificate III in Retail Baking or Plant Baking cannot be included within the Certificate II in Food Processing (Sales).

NOTE 2: Units marked with an asterisk (*) require completion of prerequisite Unit/s identified under the Unit.

CORE UNITS

Complete the following six (6) Units.

FDFFS2001A	Implement the food safety program and procedures #
FDFOHS2001A	Participate in OHS processes
FDFOP2061A	Use numerical applications in the workplace
FDFOP2063A	Apply quality systems and procedures
FDFOP2064A	Provide and apply workplace information
MSAENV272B	Participate in environmentally sustainable work practices

In the case where this Qualification is to be applied in a work environment where food is processed for non-human consumption such as pet food and stock feed or other situations where human food safety skills are not required, then this Unit may be replaced by **FDFOP2062A Apply work procedures to maintain integrity of product.**

ELECTIVE UNITS

Group A

SIRRMER004A	Prepare and display bakery products* <i>SIRRFSA001A Apply retail food safety practices</i>
SIRXFIN201	Balance and secure point-of-sale terminal
SIRXFIN002A	Perform retail finance duties
SIRXMER201	Merchandise products
SIRXRSK001A	Minimise theft
SIRXSLS002A	Advise on products and services

Select a minimum of two (2) Group A elective Units.

Group B

Sector Specialist Units	
Baking	
FDFBK2001A	Operate a cooling and slicing process
FDFBK2002A	Operate a pastry forming and filling process
FDFBK2003A	Manufacture rye crisp breads
FDFBK2004A	Manufacture wafer products
FDFBK2005A	Operate a doughnut making process
FDFBK2006A	Operate a griddle production process
FDFBK2007A	Operate a pastry production process
FDFOP2024A	Operate a cooling, slicing and wrapping process
FDFOP2055A	Freeze dough
Beverages	
FDFBV2001A	Operate a deaeration, mixing and carbonation process
FDFBV2002A	Manufacture coffee (roast and ground)
FDFBV2003A	Operate an ice manufacturing process
Confectionery	
FDFCON2001A	Examine raw ingredients used in confectionery
FDFCON2002A	Operate a boiled confectionery process
FDFCON2003A	Operate a chocolate conching process
FDFCON2004A	Operate a chocolate depositing or moulding process

FDFCON2005A	Operate a confectionery depositing process
FDFCON2006A	Operate a granulation and compression process
FDFCON2007A	Operate a panning process
FDFCON2008A	Operate a chocolate refining process
FDFCON2009A	Operate a starch moulding process
Dairy processing	
FDFDP2001A	Operate a butter churning process
FDFDP2002A	Operate a butter oil process* <i>FDFOP2043A Operate an homogenisation process OR FDFDP2001A Operate a butter churning process</i>
FDFDP2003A	Operate a curd production and cutting process
FDFDP2004A	Operate a cooling and hardening process
FDFDP2005A	Operate a cheese pressing and moulding process
FDFDP2006A	Operate a fermentation process
Fruit and vegetables	
FDFFV2001A	Apply hydro-cooling process to fresh produce
Grain processing	
FDFGR2001A	Operate a liquid, mash or block stockfeed process
FDFGR2002A	Understand mill operations and technologies
FDFGR2003A	Operate a grain conditioning process
FDFGR2004A	Operate a grain cleaning process
FDFGR2005A	Operate a purification process
FDFGR2006A	Operate a scalping and grading process
FDFGR2007A	Operate a scratch and sizing process
FDFGR2008A	Operate a break roll process
FDFGR2009A	Operate a pelleting process
FDFGR2010A	Handle grain in a storage area
AHCBAC204A	Prepare grain storages
TLIJ2003A	Apply grain protection measures
TLIJ2004A	Implement grain monitoring measures
Grocery products and supplies	

FD20911A	Operate a bleaching process
FD20912A	Operate a complexing process
FD20913A	Operate a deodorising process
FD20914A	Operate a flake preparation process
FD20915A	Operate a fractionation process
FD20916A	Operate a hydrogenation process
FD20917A	Operate an interesterification process
FD20918A	Operate a neutralisation process
FD20919A	Operate a soap splitting process
FD20920A	Operate a winterisation process
FD20921A	Operate a creamed honey manufacture process
Poultry	
FD20922A	Operate a dicing, stripping or mincing process
FD20923A	Operate an evisceration process
FD20924A	Grade carcass
FD20925A	Harvest edible offal
FD20926A	Operate a marinade injecting process
FD20927A	Operate a washing and chilling process
FD20928A	Operate the bird receipt and hanging process
FD20929A	Operate a stunning, killing and defeathering process
FD20930A	Work in an egg grading floor
FD20931A	Operate egg grading and packing floor equipment* <i>FD20930A Work in an egg grading floor</i>
MT20932B	Apply animal welfare and handling requirements
MT20933C	Clean after operations – boning room

Cross Sector Units	
FD20934A	Work effectively in the food processing industry
FD20935A	Inspect and sort materials and product
FD20936A	Clean equipment in place
FD20937A	Clean and sanitise equipment
FD20938A	Operate a bulk dry goods transfer process

Cross Sector Units	
FDFOP2007A	Work in a freezer storage area
FDFOP2008A	Operate a bulk liquid transfer process
FDFOP2009A	Load and unload tankers
FDFOP2010A	Work with temperature controlled stock
FDFOP2011A	Conduct routine maintenance
FDFOP2012A	Maintain food safety when loading, unloading and transporting food
FDFOP2013A	Apply sampling procedures
FDFOP2014A	Participate in sensory analyses
FDFOP2016A	Work in a food handling area for non-food handlers
FDFOP2017A	Operate a blending, sieving and bagging process
FDFOP2018A	Operate a case packing process
FDFOP2019A	Fill and close product in cans
FDFOP2020A	Operate a form, fill and seal process
FDFOP2021A	Operate a fill and seal process
FDFOP2022A	Operate a high speed wrapping process
FDFOP2023A	Operate a packaging process
FDFOP2025A	Manufacture extruded and toasted products
FDFOP2026A	Operate a forming or shaping process
FDFOP2027A	Dispense non-bulk ingredients
FDFOP2028A	Operate a mixing or blending process
FDFOP2029A	Operate a baking process
FDFOP2030A	Operate a process control interface
FDFOP2031A	Operate a coating application process
FDFOP2032A	Work in a clean room environment * <i>FDFFS2001A Implement the food safety program and procedures OR</i> <i>FDFPH2001A Apply Good Manufacturing Practice procedures</i>
FDFOP2033A	Operate a depositing process
FDFOP2034A	Operate an evaporation process
FDFOP2035A	Operate an enrobing process

Cross Sector Units	
FDFOP2036A	Operate an extrusion process
FDFOP2037A	Operate a filtration process
FDFOP2038A	Operate a grinding process
FDFOP2039A	Operate a frying process
FDFOP2040A	Operate a heat treatment process
FDFOP2041A	Operate a mixing or blending and cooking process
FDFOP2042A	Operate a drying process
FDFOP2043A	Operate an homogenising process
FDFOP2044A	Operate a retort process
FDFOP2045A	Operate pumping equipment
FDFOP2046A	Operate a production process
FDFOP2047A	Operate a portion saw
FDFOP2048A	Pre-process raw materials
FDFOP2049A	Operate a reduction process
FDFOP2050A	Operate a separation process
FDFOP2051A	Operate a spreads production process
FDFOP2052A	Operate a chocolate tempering process
FDFOP2053A	Operate a washing and drying process
FDFOP2054A	Operate a water purification process
FDFOP2056A	Operate a freezing process
FDFOP2057A	Operate a membrane process
FDFOP2058A	Operate a holding and storage process
FDFOP2059A	Operate a continuous freezing process
FDFOP2060A	Operate an automated cutting process
FDFSUG218A	Operate a boiler - basic
FDFSUG222A	Operate a waste water treatment system
AHCWRK308A	Handle bulk materials in storage area
MSL973001A	Perform basic tests
MTMPSR203A	Sharpen knives
MTMPSR201C	Vacuum pack product
PMBPROD211B	Operate blow moulding equipment

Cross Sector Units	
PMBPROD270B	Operate injection blow moulding equipment
TLIA2009A	Complete and check import/export documentation
TLIA2021A	Despatch stock
TLIA4025A	Regulate temperature controlled stock
TLID2003A	Handle dangerous goods/hazardous substances
TLID2004A	Load and unload goods/cargo

Select a minimum of two (2) Group B Specialist and Cross Sector Units.

GROUP C

FD209111003A	Carry out manual handling tasks
FD209112005A	Work in a socially diverse environment
FD209112015A	Apply principles of statistical process control* <i>FD209112061A Use numerical applications in the workplace</i>
FD209112001A	Participate in work teams and groups
BSBITU201A	Produce simple word processed documents
BSBITU202A	Create and use spreadsheets
BSBWOR204A	Use business technology
HLTFA201B	Provide basic emergency life support
MSS402010A	Manage the impact of change on own work
MSS402001A	Apply competitive systems and practices
MSS402002A	Sustain process improvements
MSS402021A	Apply Just in Time procedures
MSS402030A	Apply cost factors to work practices
MSACMT231A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards
MSACMT260A	Use planning software systems in manufacturing
MSS402060A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy

SITHFAB012B	Prepare and serve espresso coffee
TLIA2014A	Use product knowledge to complete work operations
TLID2010A	Operate a forklift
TLIK2010A	Use infotechnology devices in the workplace

FDF21012 Certificate II in Sugar Milling Industry Operations

Modification History

This qualification has been derived from SUG20102 Certificate II in Sugar Milling. See Qualification Mapping Guide for notes on equivalence.

Description

Job Roles

This qualification covers work undertaken by sugar milling industry workers. These may include for example:

Sugar Processing

Sugar boiler assistant

Steam plant attendant

Low grade fugal operator

Laboratory worker

Diffuser attendant

Effet operator

High grade fugal operator

Engine driver in mills

Cane Supply Transport

Cane rail construction worker

Cane rail maintenance worker

Truck driver

Locomotive operator

Tamping machine operator

Weighbridge clerk

Forklift operator

Mill Services

Dogger

Rigger

Scaffolder

Assistant bridge carpenter

Mobile crane operator

Backhoe operator

Dozer/front-end loader operator

Additional Qualification Advice

Units selected from other Training Packages must be relevant to the work outcome, local

industry requirements and the qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this qualification include completion of FDF11011 Certificate I in Sugar Milling Industry Operations or direct entry.

Pathways from the Qualification

After achieving this qualification, candidates may move into employment in the sugar milling industry and undertake the FDF31012 Certificate III in Sugar Milling Industry Operations or any other suitable qualification according to the needs of the enterprise and higher level job functions.

Australian Apprenticeships

This qualification is suitable for an Australian Apprenticeship.

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace. There are elective Units available in this Qualification linked to the National Standard for Licensing Persons Performing High Risk Work. Refer to the host Training Package for details about the application of these Units and regulatory frameworks for their use.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • Complete work forms and required written documentation • Use communication and information technologies to support work operations • Demonstrate effective and appropriate interpersonal skills • Interpret and apply workplace procedures and instructions • Share workplace information • Communicate information about problems with work • Communicate information relating to OHS.
Teamwork	<ul style="list-style-type: none"> • Work as part of a team • Provide assistance to others in the work area • Identify own role and responsibilities within a team • Identify team goals • Share work related information • Maintain health and safety of work area for self and others.
Problem-solving	<ul style="list-style-type: none"> • Identify and report any workplace hazards • Identify workplace problems and make contributions to their solution • Identify and apply health and safety issues relating to work in the food industry • Apply knowledge of materials, product purpose and processes to work operations • Check performance of machines and equipment and identify signs of faulty operations • Monitor workplace activities and identify and report non-compliances.
Initiative and Enterprise	<ul style="list-style-type: none"> • Provide feedback on procedures and processes • Gather and interpret information to support safe and efficient work • Ask questions regarding requirements and expectations • Make suggestions for continuous improvement • Inspect quality of work on an ongoing basis • Record basic information on the quality and other indicators of work outcomes.
Planning and Organising	<ul style="list-style-type: none"> • Identify work requirements and work load priorities • Plan work activities to meet daily work requirements • Direct items to the correct area for further processing • Identify and use relevant personal protective equipment • Organise work area to maintain housekeeping standards

	<ul style="list-style-type: none"> • Select and organise relevant equipment and tools • Identify and report issues affecting ability to meet work outcomes.
Self-management	<ul style="list-style-type: none"> • Understand own work activities • Identify personal responsibilities • Accept responsibility for quality of own work • Participate in OHS practices • Apply food safety practices • Plan to meet required work outcomes of self and team • Monitor own work • Maintain own work efficiency • Keep the work area clean and tidy at all times.
Learning	<ul style="list-style-type: none"> • Assess own competencies in meeting job requirements • Listen to feedback and advice of supervisors • Identify own skill requirements and seek skill development if required • Attend training or skill development activities • Ask questions to expand own knowledge.
Technology	<ul style="list-style-type: none"> • Use work tools, machines and equipment safely and effectively • Perform minor maintenance on machinery in accordance with workplace practice • Use manual handling technologies in the workplace.

Packaging Rules

Complete **sixteen (16)** units of competency comprised of:

- Three (3) Core Units
- Thirteen (13) Elective Units

Core Units

Complete all three (3) core units

Unit Code	Unit Title
FDFOHS2001A	Participate in OHS processes
FDFOP2064A	Provide and apply workplace information
MSAENV272B	Participate in environmentally sustainable work practices

Elective Units

- Select a minimum of **six (6)** units from Group A
- **Seven (7)** additional units can come from Group A and or/this or any other endorsed Training Package or accredited course at Certificate I, II, or III.
- Selected units must be relevant to job outcomes in the sugar milling industry.

Group A Units

Sector Specialist Units	
Rail Infrastructure	
FDFSUG201A	Lay sleepers for cane rail systems
FDFSUG202A	Lay rails for cane rail systems
FDFSUG203A	Lay skeleton track for cane rail systems
FDFSUG204A	Operate tamping equipment
FDFSUG205A	Construct turnouts * <i>FDFSUG202A Lay rails for cane rail systems</i>
AHCMOM207A	Conduct front end loader operations
RIICBM305A	Install pre-cast concrete bridge decks
RIIMPO319A	Conduct backhoe/loader operations
TLIC2041A	Operate self-propelled equipment on track

Rail Transport Operations	
FDFSUG206A	Drive a cane locomotive
Factory Operations	
FDFSUG207A	Conduct cane weighbridge operations
FDFSUG208A	Operate a tipping station
FDFSUG209A	Operate an extraction station
FDFSUG210A	Operate a juice clarification process
FDFSUG211A	Operate a mud filtration process
FDFSUG212A	Chemically clean equipment
FDFSUG213A	Operate a pans station
FDFSUG214A	Operate a low grade fugal station
FDFSUG215A	Operate a high grade fugal station
FDFSUG216A	Operate a crystalliser station process
FDFSUG217A	Operate a turbine
FDFSUG218A	Operate a boiler - basic
FDFSUG219A	Operate a bagasse fuel supply system
FDFSUG220A	Operate a coal fuel supply system
FDFSUG221A	Operate an ash separation system
FDFSUG222A	Operate a waste water treatment system
FDFSUG223A	Operate a cooling water system
FDFOP2030A	Operate a process control interface
FDFOP2034A	Operate an evaporation process
Laboratory	
FDFSUG224A	Perform standard tests on cane samples
FDFSUG225A	Collect and prepare samples

Factory Maintenance	
FDFSUG226A	Perform general drilling operations
FDFSUG227A	Perform general lathe operations
FDFSUG228A	Perform general milling operations
FDFSUG229A	Perform general planing and shaping operations
FDFSUG230A	Undertake forming, bending and shaping
FDFSUG231A	Undertake simple fabrication
AHCMOM203A	Operate basic machinery and equipment
AHCMOM204A	Undertake operational maintenance of machinery
CPCCCO3011A	Perform dogging* <i>CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry</i>
CPCCRI3012A	Perform basic rigging * <i>CPCCCO3011A Perform dogging</i>
CPCCCSC2002A	Erect and dismantle basic scaffolding * <i>CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry</i>
RIIHAN305A	Operate gantry or overhead crane
TLID3035A	Operate a boom type elevating work platform
TLID3036A	Lift and move load using a mobile crane
TLILIC2001A	Licence to operate a forklift truck
General	
TLILIC2014A	Licence to drive light rigid vehicle
TLILIC2015A	Licence to drive medium rigid vehicle
TLILIC3006A	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)

FDF30111 Certificate III in Food Processing

Modification History

This Qualification supersedes and is equivalent to FDF30110 Certificate III in Food Processing.

September 2012: inclusion of two new Units to cover milling of all types of grain for human consumption.

April 2012: Inclusion of new malting and brewing Units as electives.

November 2011: inclusion of two (2) new elective cheese Units, updates to imported Units, and minor edits.

Description

This Qualification covers a range of food processing industries, such as:

- Grain processing (including stock feed, animal feeds, milling wheat, barley, oats and flour milling)
- Beverages (including juices, soft drinks, cordials, aerated and still waters, energy drinks and other modified beverages such as vitamin and antioxidant beverages, coffee, tea and ice)
- Confectionery
- Dairy processing
- Fruit and vegetables
- Grocery products and supplies (including honey, jams, spreads, sauces, dressings, condiments, spices, edible oils and fats and pasta)
- Poultry.

Job Roles The Certificate III in Food Processing targets those performing production related roles that require an application of industry specific skills and knowledge, including some technical and problem solving ability. This Qualification caters for multi-skilled outcomes and roles that include team leader functions within the production environment.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Many units in this Qualification assume a basic level of mathematics equivalent to a school sector Year 10 standard. If a student does not possess this level of mathematics then the Unit FDFOP2061A Use numerical applications in the workplace should be selected as part of this Qualification.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF20111 Certificate II in Food Processing.
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake the FDF40110 Certificate IV in Food Processing or FDF41007 Certificate IV in Food Safety Auditing, other food processing related Qualifications or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate III in Food Processing

The following table contains a summary of the employability skills as identified by the Food Processing industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Confirm relevant industry and workplace requirements. • Understand personal and team requirements of relevant industry and workplace standards, regulations and policies. • Complete standard documentation. • Use communication technologies efficiently. • Provide relevant work-related information to others. • Ensure records are accurate and legible. • Establish effective working relationships with colleagues. • Undertake interactive workplace communication. • Support team communication practices.
Teamwork	<ul style="list-style-type: none"> • Explain and implement work team reporting requirements. • Provide support to team members. • Monitor work team tasks in accordance with regulatory and workplace requirements. • Demonstrate and encourage others in working cooperatively with people of different ages, gender, race or religion. • Undertake appropriate and effective communication with team members.
Problem-solving	<ul style="list-style-type: none"> • Identify risks and implement risk control measures for machinery and equipment. • Identify and address problems and faults. • Provide problem solving support to team members. • Evaluate skill requirements of work tasks. • Use problem solving techniques to determine work requirements. • Assess processes and outcomes against quality criteria. • Implement food safety procedures.
Initiative and enterprise	<ul style="list-style-type: none"> • Contribute to and promote continuous improvement processes. • Seek and provide feedback on procedures and processes. • Collect and assess data and information on work processes. • Identify non-conformances to standards and take appropriate action. • Rectify problems promptly and appropriately.

	<ul style="list-style-type: none"> • Monitor and adjust activity in response to operational variations. • Identify, assess and act on existing and potential risks.
Planning and organising	<ul style="list-style-type: none"> • Determine work requirements in order to meet output targets. • Identify priorities and variables that impact on work planning. • Plan work tasks for self and others as required. • Allocate tasks to operators and monitor outcomes. • Implement contingency plan promptly when incidents occur. • Ensure work tools are ready and available for operations.
Self-management	<ul style="list-style-type: none"> • Manage own work to meet performance criteria. • Monitor information in work area. • Conduct regular housekeeping activities during shift to keep work area clean and tidy at all times. • Maintain currency of relevant, work-related information. • Monitor own work against quality standards and identify areas for improvement. • Understand own work activities and responsibilities. • Identify and apply safety procedures, including the use of protective equipment. • Manage work load priorities and timelines.
Learning	<ul style="list-style-type: none"> • Recognise limits of own expertise and seek skill development if required. • Assess competencies in meeting job requirements. • Ask questions to expand own knowledge. • Maintain skill and knowledge currency. • Participate in meetings to inform work practices.
Technology	<ul style="list-style-type: none"> • Use work machines or equipment in correct operational mode. • Monitor machine operation. • Perform minor maintenance on machinery. • Work with technology safely and according to workplace standards.

Packaging Rules

Completion of seventeen (17) Units made up of five (5) core Units and twelve (12) elective Units. Total Units must include a minimum of ten (10) Units coded FDF.

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

Core Units of Competency

Complete all five (5) core Units

Unit title	Unit title
FDFFS2001A	Implement the food safety program and procedures
FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOHS3001A	Contribute to OHS processes
FDFOP2064A	Provide and apply workplace information
MSAENV272B	Participate in environmentally sustainable work practices

Elective Units of Competency

Elective section must include:

- One (1) Group A Unit
- Six (6) Group B Units.

The five (5) remaining elective Units may be selected from:

- Group A
- Group B
- Three (3) Group C Units
- Units packaged at Group A in the Certificate II in Food Processing
- Three (3) from Units packaged at Certificate IV in Food Processing
- Three (3) Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate I level (1 Unit), Certificate II level (2 Units) and Certificate III level (3 Units)

GROUP A

Unit code	Unit title
FDFOP3003A	Operate interrelated processes in a production system

FDFOP3004A	Operate interrelated processes in a packaging system
------------	--

GROUP B

Sector Specialist Units	
Unit code	Unit title
AHCPHT401A	Assess olive oil for style and quality
FDFCH3001A	Coordinate cheese making operations
FDFCH3002A	Carry out processes for a range of artisan cheeses
FDFFFV3001A	Conduct chemical wash for fresh produce
FDFFFV3002A	Program fresh produce grading equipment
FDFGR3001A	Work with micronutrients or additions in stockfeed manufacturing processes
FDFGR3002A	Demonstrate knowledge of animal nutrition principles
FDFGR3003A	Lead flour milling shift operations
FDFGR3004A	Control mill processes and performance
FDFOP3001A	Control contaminants and allergens in the workplace* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3005A	Prepare food products using basic cooking methods* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3006A	Identify cultural, religious and dietary requirements for food products
FDFPO3001A	Operate a chickway system
FDFPO3002A	Debone and fillet product (manually)
MTMR308C	Prepare and produce value-added products
Cross Sector Units	

BSBSMB405B	Monitor and manage small business operations
BSBSMB407A	Manage a small team
FDFOP2061A	Use numerical applications in the workplace
FDFOP3002A	Set up a production or packaging line for operation
FDFPPL3001A	Participate in improvement processes
FDFPPL3002A	Report on workplace performance
FDFPPL3003A	Support and mentor individuals and groups
FDFPPL3004A	Lead work teams and groups
FDFPPL3005A	Participate in an audit process* <i>FDFOHS2001A Participate in OHS processes</i> <i>FDFOP2063A Apply quality systems and procedures</i> <i>MSAENV272B Participate in environmentally sustainable work practices</i>
FDFPPL3006A	Establish compliance requirements for work area
FDFTEC3001A	Participate in a HACCP team* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFTEC3002A	Implement the pest prevention program
FDFTEC3003A	Apply raw materials, ingredient and process knowledge to production problems
LMTGN3007B	Monitor and operate trade waste process
MEM13003B	Work safely with industrial chemicals and materials
MSAENV472B	Implement and monitor environmentally sustainable work practices
MSAPMSUP303A	Identify equipment faults
MSAPMSUP330A	Develop and adjust a production schedule
MSL973001A	Perform basic tests
MSS403011A	Facilitate implementation of competitive systems and practices

MSS403013A	Lead team culture improvement
SIRXINV002A	Maintain and order stock
SIRXRSK002A	Maintain store security
TLIA3015A	Complete receiptal/despatch documentation
TLIA3016A	Use inventory systems to organise stock control
TLIA3018A	Organise despatch operations
TLIA3019A	Organise receiptal operations
TLIA3026A	Monitor storage facilities
TLIA3038A	Control and order stock
TLIA3039A	Receive and store stock

GROUP C

Unit code	Unit title
BSBCUS301B	Deliver and monitor a service to customers
BSBSMB301A	Investigate micro business opportunities
BSBSMB401A	Establish legal and risk management requirements of small business
BSBSMB402A	Plan small business finances
BSBSMB403A	Market the small business
BSBSMB404A	Undertake small business planning
BSBSMB406A	Manage small business finances
BSBWRT301A	Write simple documents
FDFOHS2001A	Participate in OHS processes
FDFOP2063A	Apply quality systems and procedures
HLTFA301C	Apply first aid

MEM09002B	Interpret technical drawing
MEM30011A	Set up basic pneumatic circuits
MSAPMOPS405A	Identify problems in fluid power system
MSAPMOPS406A	Identify problems in electronic control systems
MSAPMPER300C	Issue work permits* <i>RIIRIS201B Conduct local risk control</i>
MSAPMSUP310A	Contribute to development of plant documentation
MSAPMSUP390A	Use structured problem solving tools
MSL922001A	Record and present data
MSS402001A	Apply competitive systems and practices
MSS402002A	Sustain process improvements
MSS402010A	Manage the impact of change on own work
MSS402021A	Apply Just in Time procedures
MSS402030A	Apply cost factors to work practices
MSS402031A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy
MSS403002A	Ensure process improvements are sustained
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
MSS403021A	Facilitate a Just in Time system

MSS403023A	Monitor a levelled pull system of operations
MSS403040A	Facilitate and improve implementation of 5S
MSS403041A	Facilitate breakthrough improvements
MSS403051A	Mistake proof an operational process
MSS404050A	Undertake process capability improvements* <i>MSS404052A Apply statistics to operational processes</i>
MSS404052A	Apply statistics to operational processes
MSS404060A	Facilitate the use of planning software systems in a work area or team
MSS404082A	Assist in implementing a proactive maintenance strategy
MSS404083A	Support proactive maintenance
TAEASS401B	Plan assessment activities and processes
TAEASS402B	Assess competence
TAEASS403B	Participate in assessment validation
TAEDEL301A	Provide work skill instruction

FDF30210 Certificate III in Pharmaceutical Manufacturing

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Update to imported Units, minor edits.

Description

This Qualification covers the Pharmaceutical Manufacturing specialisation.

Job Roles

The Certificate III in Pharmaceutical Manufacturing targets those requiring team leader and higher production skills for pharmaceutical manufacturing environments. It builds upon industry specific skills and knowledge and allows greater emphasis on leadership, problem solving as well as increased technical ability.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Many Units in this Qualification assume a basic level of mathematics equivalent to a school sector Year 10 standard. If a student does not possess this level of mathematics then the Unit FDFOP2061A Use numerical applications in the workplace should be selected as part of this Qualification.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF20211 Certificate II in Pharmaceutical Manufacturing
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake the FDF40210 Certificate IV in Pharmaceutical Manufacturing or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, an individual Unit of Competency may specify relevant licensing, legislative and/or regulatory requirements. In addition, all work must comply with Good Manufacturing Practice, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate III in Pharmaceutical Manufacturing

The following table contains a summary of the employability skills as identified by the Pharmaceutical Manufacturing industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Confirm relevant industry and workplace requirements. • Understand personal and team requirements of relevant industry and workplace standards, regulations and policies. • Complete standard documentation. • Use communication technologies efficiently. • Provide relevant work-related information to others. • Ensure records are accurate and legible. • Establish effective working relationships with colleagues. • Undertake interactive workplace communication. • Support team communication practices.
Teamwork	<ul style="list-style-type: none"> • Explain and implement work team reporting requirements. • Provide support to team members. • Monitor work team tasks in accordance with regulatory and workplace requirements. • Demonstrate and encourage others in working cooperatively with people of different ages, gender, race or religion. • Undertake appropriate and effective communication with team members.
Problem-solving	<ul style="list-style-type: none"> • Identify risks and implement risk control measures for machinery and equipment. • Identify and address problems and faults. • Provide problem solving support to team members. • Evaluate skill requirements of work tasks. • Use problem solving techniques to determine work requirements. • Assess processes and outcomes against quality criteria.
Initiative and enterprise	<ul style="list-style-type: none"> • Contribute to and promote continuous improvement processes. • Seek and provide feedback on procedures and processes. • Collect and assess data and information on work processes. • Identify non-conformances to standards and take appropriate action. • Rectify problems promptly and appropriately. • Monitor and adjust activity in response to operational

	<p>variations.</p> <ul style="list-style-type: none"> Identify, assess and act on existing and potential risks.
Planning and organising	<ul style="list-style-type: none"> Determine work requirements in order to meet output targets. Identify priorities and variables that impact on work planning. Plan work tasks for self and others as required. Allocate tasks to operators and monitor outcomes. Implement contingency plan promptly when incidents occur. Ensure work tools are ready and available for operations.
Self-management	<ul style="list-style-type: none"> Manage own work to meet performance criteria. Monitor information in work area. Conduct regular housekeeping activities during shift to keep work area clean and tidy at all times. Maintain currency of relevant work-related information. Monitor own work against quality standards and identify areas for improvement. Understand own work activities and responsibilities. Identify and apply safety procedures, including the use of protective equipment. Manage work load priorities and timelines.
Learning	<ul style="list-style-type: none"> Recognise limits of own expertise and seek skill development if required. Assess competencies in meeting job requirements. Ask questions to expand own knowledge. Maintain skill and knowledge currency. Participate in meetings to inform work practices.
Technology	<ul style="list-style-type: none"> Use work machines and equipment in correct operational mode. Monitor machine operation. Perform minor maintenance on machinery. Work with technology safely and according to workplace standards.

Packaging Rules

This Qualification requires the achievement of **sixteen (16)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of nine (9) Units coded FDF.

Four (4) Core Units

Twelve (12) Elective Units

Elective selection must include:

- One (1) Group A elective Unit
- Five (5) Group B elective Units. The Group B selection may include the Unit not previously selected from Group A.

Six (6) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units, not previously selected
- Group C elective Units (maximum of 3 Units)
- Units packaged at Group A in FDF20210 Certificate II in Pharmaceutical Manufacturing (maximum of 5)
- Units packaged at FDF40210 Certificate in IV in Pharmaceutical Manufacturing (maximum of 3)
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate I level (maximum 1 Unit), Certificate II level (maximum 2 Units) and Certificate III level (maximum 3)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s identified under the Unit.

CORE UNITS

Complete the following four (4) Units.

FDFOHS3001A	Contribute to OHS processes
FDFOP2064A	Provide and apply workplace information
FDFPH3001A	Monitor and maintain Good Manufacturing Practice procedures
MSAENV272B	Participate in environmentally sustainable work practices

ELECTIVE UNITS

GROUP A

Complete one (1) Group A Unit

FD303A	Operate interrelated processes in a production system
FD304A	Operate interrelated processes in a packaging system

GROUP B

Select a minimum of five (5) Group B elective Units

FD301A	Participate in improvement processes
FD302A	Report on workplace performance
FD303A	Support and mentor individuals and groups
FD304A	Lead work teams and groups
FD305A	Participate in an audit process* <i>FD301A Participate in OHS processes</i> <i>FD303A Apply quality systems and procedures</i> <i>MSAENV272B Participate in environmentally sustainable work practices</i>
FD306A	Establish compliance requirements for work area
FD302A	Implement the pest prevention program
FD303A	Apply raw materials, ingredient and process knowledge to production problems
FD302A	Set up a production or packaging line for operation
FD2061A	Use numerical applications in the workplace
BS305B	Monitor and manage small business operations
BS307A	Manage a small team
LMT307B	Monitor and operate trade waste
MEM1303B	Work safely with industrial chemicals and materials
MSS403011A	Facilitate implementation of competitive systems and practices
MSS403013A	Lead team culture improvement
MSAENV472B	Implement and monitor environmentally sustainable work practices
MSAPMSUP303A	Identify equipment faults
MSAPMSUP330A	Develop and adjust a production schedule
MSL973001A	Perform basic tests
TLIA3015A	Complete receipt/despatch documentation
TLIA3016A	Use inventory systems to organise stock control
TLIA3018A	Organise despatch operations

TLIA3019A	Organise receival operations
TLIA3026A	Monitor storage facilities
TLIA3038A	Control and order stock
TLIA3039A	Receive and store stock
SIRXINV002A	Maintain and order stock
SIRXRSK002A	Maintain store security

GROUP C

FDFOHS2001A	Participate in OHS processes
FDFOP2063A	Apply quality systems and procedures
BSBCUS301B	Deliver and monitor a service to customers
BSBSMB301A	Investigate micro business opportunities
BSBSMB401A	Establish legal and risk management requirements of small business
BSBSMB402A	Plan small business finances
BSBSMB403A	Market the small business
BSBSMB404A	Undertake small business planning
BSBSMB406A	Manage small business finances
BSBWRT301A	Write simple documents
HLTFA301C	Apply first aid
MSS402010A	Manage the impact of change on own work
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
MSS402001A	Apply competitive systems and practices
MSS402002A	Sustain process improvements
MSS403002A	Ensure process improvements are sustained
MSS402021A	Apply Just in Time procedures
MSS402030A	Apply cost factors to work practices
MSS402031A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards

MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy
MSS403021A	Facilitate a Just in Time system
MSS403023A	Monitor a levelled pull system of operations
MSS403040A	Facilitate and improve implementation of 5S
MSS403041A	Facilitate breakthrough improvements
MSS404050A	Undertake process capability improvements* <i>MSS404052A Apply statistics to operational processes</i>
MSS403051A	Mistake proof an operational process
MSS404052A	Apply statistics to operational processes
MSS404060A	Facilitate the use of planning software systems in a work area or team
MSS404082A	Assist in implementing a proactive maintenance strategy
MSS404083A	Support proactive maintenance
MSAPMOPS405A	Identify problems in fluid power system
MSAPMOPS406A	Identify problems in electronic control systems
MSAPMPER300C	Issue work permits* <i>RIIRIS201B Conduct local risk control</i>
MSAPMSUP310A	Contribute to development of plant documentation
MSAPMSUP390A	Use structured problem solving tools
MSL922001A	Record and present data
TAEASS401B	Plan assessment activities and processes
TAEASS402B	Assess competence
TAEASS403B	Participate in assessment validation
TAEDEL301A	Provide work skill instruction

FDF30310 Certificate III in Plant Baking

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers the plant baking specialisation within the food processing industry. It targets work conducted in plant baking enterprises in the large scale production and packaging of bread products.

Job Roles

The FDF30310 Certificate III in Plant Baking targets those performing production related roles that require an application of specific plant baking skill and knowledge including some technical and problem solving ability. This Qualification caters for multi-skilled outcomes and roles that include team leader functions within the production environment.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Many Units in this Qualification assume a basic level of mathematics equivalent to a school sector Year 10 standard. If a student does not possess this level of mathematics then the Unit FDFOP2061A Use numerical applications in the workplace should be selected as part of this Qualification.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF20111 Certificate II in Food Processing
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake the FDF40110 Certificate IV in Food Processing or other suitable Qualifications.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate III in Plant Baking

The following table contains a summary of the employability skills as identified by the plant baking industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Confirm relevant industry and workplace requirements. • Understand personal and team requirements of relevant industry and workplace standards, regulations and policies. • Complete standard documentation. • Use communication technologies efficiently. • Provide relevant work-related information to others. • Ensure records are accurate and legible. • Establish effective working relationships with colleagues. • Undertake interactive workplace communication. • Support team communication practices.
Teamwork	<ul style="list-style-type: none"> • Explain and implement work team reporting requirements. • Provide support to team members. • Monitor work team tasks in accordance with regulatory and workplace requirements. • Demonstrate and encourage others in working cooperatively with people of different ages, gender, race or religion. • Undertake appropriate and effective communication with team members.
Problem-solving	<ul style="list-style-type: none"> • Identify risks and implement risk control measures for machinery and equipment. • Identify and address problems and faults. • Provide problem solving support to team members. • Implement food safety procedures. • Evaluate skill requirements of work tasks. • Use problem solving techniques to determine work requirements. • Assess processes and outcomes against quality criteria.
Initiative and enterprise	<ul style="list-style-type: none"> • Contribute to and promote continuous improvement processes. • Seek and provide feedback on procedures and processes. • Collect and assess data and information on work processes. • Identify non-conformances to standards and take appropriate action. • Rectify problems promptly and appropriately. • Monitor and adjust activity in response to operational variations.

	<ul style="list-style-type: none"> • Identify, assess and act on existing and potential risks.
Planning and organising	<ul style="list-style-type: none"> • Determine work requirements in order to meet output targets. • Identify priorities and variables that impact on work planning. • Plan work tasks for self and others as required. • Allocate tasks to operators and monitor outcomes. • Implement contingency plan promptly when incidents occur. • Ensure work tools are ready and available for operations.
Self-management	<ul style="list-style-type: none"> • Manage own work to meet performance criteria. • Monitor information in work area. • Conduct regular housekeeping activities during shift to keep work area clean and tidy at all times. • Maintain currency of relevant, work-related information. • Monitor own work against quality standards and identify areas for improvement. • Understand own work activities and responsibilities. • Identify and apply safety procedures, including the use of protective equipment. • Manage work load priorities and timelines.
Learning	<ul style="list-style-type: none"> • Recognise limits of own expertise and seek skill development if required. • Assess competencies in meeting job requirements. • Ask questions to expand own knowledge. • Maintain skill and knowledge currency. • Participate in meetings to inform work practices.
Technology	<ul style="list-style-type: none"> • Use plant machines and equipment in correct operational mode. • Monitor machine operation. • Perform minor maintenance on machinery. • Work with technology safely and according to workplace standards.

Packaging Rules

This Qualification requires the achievement of **seventeen (17)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of ten (10) Units coded FDF.

Eight (8) Core Units

Nine (9) Elective Units

Elective selection must include:

- Four (4) Group A elective Units

Five (5) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units
- Units packaged at Group A in the Certificate II in Food Processing (maximum of 5)
- Units packaged at Certificate IV in Food Processing (maximum of 3)
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate III level (maximum 3 Units), Certificate II level (maximum 2 Units) and Certificate I level (maximum 1 Unit)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete the following eight (8) Units:

FDFFS2001A	Implement the food safety program and procedures
FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOHS3001A	Contribute to OHS processes
FDFOP2064A	Provide and apply workplace information
FDFPB3001A	Operate a dough mixing process
FDFPB3002A	Operate a final proof and baking process
FDFPB3003A	Operate a dough make up process
MSAENV272B	Participate in environmentally sustainable work practices

GROUP A

Select a minimum of four (4) Group A elective Units

FDFOP2061A	Use numerical applications in the workplace
FDFOP3001A	Control contaminants and allergens in the workplace* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3002A	Set up a production or packaging line for operation
FDFOP3003A	Operate interrelated processes in a production system
FDFOP3004A	Operate interrelated processes in a packaging system
FDFPPL3001A	Participate in improvement processes
FDFPPL3002A	Report on workplace performance
FDFPPL3003A	Support and mentor individuals and groups
FDFPPL3004A	Lead work teams and groups
FDFPPL3005A	Participate in an audit process* <i>FDFOHS2001A Participate in OHS processes</i> <i>FDFOP2063A Apply quality systems and procedures</i> <i>MSAENV272B Participate in environmentally sustainable work practices</i>
FDFPPL3006A	Establish compliance requirements for work area
FDFTEC3001A	Participate in a HACCP team* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFTEC3002A	Implement the pest prevention program
FDFTEC3003A	Apply raw materials, ingredient and process knowledge to production problems
BSBSMB405B	Monitor and manage small business operations
BSBSMB407A	Manage a small team
LMTGN3007B	Monitor and operate trade waste
MEM13003B	Work safely with industrial chemicals and materials
MSAENV472B	Implement and monitor environmentally sustainable work practices

MSAPMSUP303A	Identify equipment faults
MSAPMSUP330A	Develop and adjust a production schedule
MSS403011A	Facilitate implementation of competitive systems and practices
MSS403013A	Lead team culture improvement
MSL973001A	Perform basic tests
SIRXINV002A	Maintain and order stock
SIRXRSK002A	Maintain store security
TLIA3015A	Complete receipt/despatch documentation
TLIA3016A	Use inventory systems to organise stock control
TLIA3018A	Organise despatch operations
TLIA3019A	Organise receipt operations
TLIA3026A	Monitor storage facilities
TLIA3038A	Control and order stock
TLIA3039A	Receive and store stock

GROUP B

FDFOHS2001A	Participate in OHS processes
FDFOP2063A	Apply quality systems and procedures
BSBCUS301B	Deliver and monitor a service to customers
BSBSMB301A	Investigate micro business opportunities
BSBSMB401A	Establish legal and risk management requirements of small business
BSBSMB402A	Plan small business finances
BSBSMB403A	Market the small business
BSBSMB404A	Undertake small business planning
BSBSMB406A	Manage small business finances

BSBWRT301A	Write simple documents
HLTFA301C	Apply first aid
MSL922001A	Record and present data
MSS402010A	Manage the impact of change on own work
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
MSS402001A	Apply competitive systems and practices
MSS402002A	Sustain process improvements
MSS403002A	Ensure process improvements are sustained
MSS402021A	Apply Just in Time procedures
MSS402030A	Apply cost factors to work practices
MSS402031A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy
MSS403021A	Facilitate a Just in Time system
MSS403023A	Monitor a manufacturing levelled pull system of operations
MSS403040A	Facilitate and improve implementation of 5S
MSS403041A	Facilitate breakthrough improvements
MSS404050A	Undertake process capability improvements* <i>MSS404052A Apply statistics to operational processes</i>
MSS403051A	Mistake proof an operational process

MSS404052A	Apply statistics to operational processes
MSS404060A	Facilitate the use planning software systems in a work area or team
MSS404082A	Assist in implementing a proactive maintenance strategy
MSS404083A	Support proactive maintenance
MSAPMOPS405A	Identify problems in fluid power system
MSAPMOPS406A	Identify problems in electronic control systems
MSAPMPER300C	Issue work permits* <i>RIIRIS201B Conduct local risk control</i>
MSAPMSUP310A	Contribute to development of plant documentation
MSAPMSUP390A	Use structured problem solving tools
TAEASS401B	Plan assessment activities and processes
TAEASS402B	Assess competence
TAEASS403B	Participate in assessment validation
TAEDEL301A	Provide work skill instruction

FDF30411 Certificate III in Wine Industry Operations

Modification History

This Qualification supersedes and is equivalent to FDF30403 Certificate III in Food Processing (Wine).

September 2012: Replacement of superseded imported Units.

April 2012: Update of imported SUG Units to new FDFSUG Units.

Description

This Qualification covers the following wine industry operational areas:

- bottling and packaging
- cellar door sales
- cellar operations
- laboratory
- warehousing
- wine grape growing.

Testamur issued for this Qualification are to be titled ‘Certificate III in Wine Industry Operations’.

An additional descriptor in brackets after the Qualification title e.g. FDF30411 Certificate III in Wine Industry Operations (Cellar Operations) may be added by a Registered Training Organisation (RTO). Any additional descriptor should reflect a minimum selection of at least nine (9) specialist Units from one of the following Unit groups:

- bottling and packaging
- cellar door sales
- cellar operations
- laboratory
- warehousing
- wine grape growing.

Job Roles The FDF30411 Certificate III in Wine Industry Operations targets those performing production related roles that require an application of wine industry specific skill and knowledge, including some technical and problem solving ability. This Qualification caters for specialised and multi-skilled outcomes and roles that include supervisory or team leader functions within an environment which may include wine grape growing, cellar operations, bottling and packaging, warehousing, laboratory and cellar door sales.

Those performing a purely warehousing role in the wine production industry should consider the TLI31610 Certificate III in Warehousing Operations.

Those performing a purely laboratory operations role in the wine production industry should consider the MSL30109 Certificate III in Laboratory Skills.

Those performing a purely cellar door role in the wine production industry should consider the SIT30707 Certificate III in Hospitality.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Many Units in this Qualification assume a basic level of mathematics equivalent to a school sector Year 10 standard. If a student does not possess this level of mathematics then the Unit FDFOP2061A Use numerical applications in the workplace, should be selected as part of this Qualification.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options, including on-the-job and work-based training, that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF20411 Certificate II in Wine Industry Operations
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake a FDF40110 Certificate IV in Food Processing or other relevant Qualifications.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, an individual Unit of Competency may specify relevant licensing, legislative and/or regulatory requirements.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate III in Wine Industry Operations

The following table contains a summary of the employability skills as identified by the wine industry for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Confirm relevant industry and workplace requirements. • Understand personal and team requirements of relevant industry and workplace standards, regulations and policies. • Complete standard documentation. • Use communication technologies efficiently. • Provide relevant work-related information to others. • Ensure records are accurate and legible. • Establish effective working relationships with colleagues. • Undertake interactive workplace communication. • Support team communication practices.
Teamwork	<ul style="list-style-type: none"> • Explain and implement work team reporting requirements. • Provide support to team members. • Monitor work team tasks in accordance with regulatory and workplace requirements. • Demonstrate and encourage others in working cooperatively with people of different ages, gender, race or religion. • Undertake appropriate and effective communication with team members.
Problem solving	<ul style="list-style-type: none"> • Identify risks and implement risk control measures for machinery and equipment. • Identify and address problems and faults. • Provide problem solving support to team members. • Evaluate skill requirements of work tasks. • Use problem-solving techniques to determine work requirements. • Assess processes and outcomes against quality criteria. • Implement HACCP or food safety procedures.
Initiative and enterprise	<ul style="list-style-type: none"> • Contribute to and promote continuous improvement processes. • Seek and provide feedback on procedures and processes. • Collect and assess data and information on work processes. • Identify non-conformances to standards and take appropriate action. • Rectify problems promptly and appropriately. • Monitor and adjust activity in response to operational variations.

	<ul style="list-style-type: none"> • Identify, assess and act on existing and potential risks.
Planning and organising	<ul style="list-style-type: none"> • Determine work requirements in order to meet output targets. • Identify priorities and variables that impact on work planning. • Plan work tasks for self and others as required. • Allocate tasks to operators and monitor outcomes. • Implement contingency plan promptly when incidents occur. • Ensure work tools are ready and available for operations.
Self-management	<ul style="list-style-type: none"> • Manage own work to meet performance criteria. • Monitor information in work area. • Conduct regular housekeeping activities during shift to keep work area clean and tidy at all times. • Maintain currency of relevant, work-related information. • Monitor own work against quality standards and identify areas for improvement. • Understand own work activities and responsibilities. • Identify and apply safety procedures, including the use of protective equipment. • Manage work load priorities and timelines.
Learning	<ul style="list-style-type: none"> • Recognise limits of own expertise and seek skill development if required. • Assess competencies in meeting job requirements. • Ask questions to expand own knowledge. • Maintain skill and knowledge currency. • Participate in meetings to inform work practices.
Technology	<ul style="list-style-type: none"> • Use work machines or equipment in correct operational mode. • Monitor machine operation. • Perform minor maintenance on machinery. • Work with technology safely and according to workplace standards.

Packaging Rules

This Qualification requires the achievement of **twenty five (25)** Units of Competency in accordance with the following rules.

- **Seven (7)** core Units of Competency
- **Eighteen (18)** elective Units of Competency.

Elective selection must include:

- **Seven (7)** Group A Wine Specialist elective Units
- **Seven (7)** Group B Wine Specialist elective Units.

Elective Units from Group A and Group B may be a combination of Units selected from any of the wine industry operational Unit areas listed below:

- Bottling and packaging
- Cellar door sales
- Cellar operations
- Laboratory
- Warehousing
- Wine grape growing

Four (4) remaining elective Units may be selected from:

- Group A Wine specialist Units, not previously selected
- Group B Wine specialist Units, not previously selected
- Group C General elective Units, listed below
- Any nationally endorsed Training Package and accredited course that are packaged at Certificate III level, Certificate II level (maximum 1 Unit) and Certificate IV level (maximum 1 Unit).

Prerequisite Units

Units marked with an asterisk (*) require completion of prerequisite Units identified under the Unit. Prerequisite Units count towards the total Units required for the Qualification.

CORE UNITS

Complete the following **seven (7)** Units.

FDFFS2001A	Implement the food safety program and procedures
FDFOHS2001A	Participate in OHS processes
FDFOHS3001A	Contribute to OHS processes
FDFOP2063A	Apply quality systems and procedures

FDFOP2064A	Provide and apply workplace information
FDFPPL3002A	Report on workplace performance
MSAENV272B	Participate in environmentally sustainable work practices

ELECTIVE UNITS

- Select a total of **eighteen (18)** elective Units from the following groups.

Elective Units may be selected from one specialist wine industry operational Unit area or from multiple Unit areas.

GROUP A: Wine specialist elective Units

- Select a minimum of **seven (7)** Units.

Bottling and packaging

FDFBP2001A	Operate the bottle supply process
FDFBP2002A	Operate the carton erection process
FDFBP2003A	Operate the carton packing process
FDFBP2005A	Operate the electronic coding process
FDFBP2009A	Operate the bottle capsuling process
FDFBP2011A	Operate the palletising process
FDFLAB2003A	Perform basic packaging tests and inspections* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFOP2004A	Clean and sanitise equipment
FDFOP2011A	Conduct routine maintenance
FDFOP2016A	Work in a food handling area for non-food handlers
FDFOP2030A	Operate a process control interface

Cellar door sales

FDFCD2003A	Evaluate wines (standard)
BSBCUS201B	Deliver a service to customers
SIRXCCS201	Apply point-of-sale handling procedures

SIRXICT303	Operate retail information technology systems
SIRXMER201	Merchandise products
SIRXRSK001A	Minimise theft
SITHCCC001B	Organise and prepare food * <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHFAB003A	Serve food and beverage to customers* <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHFAB004A	Provide food and beverage service* <i>SITHFAB003A Serve food and beverage to customers</i> <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHFAB009A	Provide responsible service of alcohol
SITHFAB011A	Develop and update food and beverage knowledge
SITHFAB012B	Prepare and serve espresso coffee
SITHFAB325A	Provide specialised advice on Australian wines* <i>SITHFAB009A Provide responsible service of alcohol</i> <i>SITHFAB222A Conduct a product tasting for alcoholic beverages</i> <i>SITHFAB005A Provide table service of alcoholic beverages*</i> <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITTIND001B	Develop and update tourism industry knowledge
SITXCCS001B	Provide visitor information
SITXFIN001A	Process financial transactions
SITXOHS002A	Follow workplace hygiene procedures

Cellar operations

FDFCEL2001A	Perform oak handling activities* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2002A	Perform fermentation operations*

	<i>FDFCEL2017A Prepare and make additions and finings</i>
FDFCEL2003A	Operate the ion exchange process* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2004A	Perform single column lees stripping (continuous still brandy) operations* <i>FDFOP2004A Clean and sanitise equipment</i> <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i>
FDFCEL2009A	Perform first distillation (pot still brandy) operations* <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i>
FDFCEL2011A	Perform heat exchange operations
FDFCEL2015A	Perform must draining operations* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2016A	Operate the crushing process* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2018A	Carry out inert gas handling operations
FDFCEL2019A	Carry out transfer operations
FDFCEL2020A	Prepare and wax tanks
FDFOP2003A	Clean equipment in place

Laboratory

FDFLAB2011A	Use basic laboratory equipment
MSL912001A	Work within a laboratory_field workplace (induction)
MSL922001A	Record and present data
MSL943002A	Participate in laboratory_field workplace safety
MSL952001A	Collect routine site samples
MSL952002A	Handle and transport samples or equipment
MSL972001A	Conduct routine site measurements

MSL973001A	Perform basic tests
------------	---------------------

Warehousing

TLIA2009A	Complete and check import/export documentation
TLIA2021A	Despatch stock
TLIA3017A	Identify products and store to specifications
TLIA3039A	Receive and store stock
TLIB2009A	Check conveyor operational status
TLID1001A	Shift materials safely using manual handling methods
TLID2003A	Handle dangerous goods/hazardous substances
TLID2010A	Operate a forklift
TLID2022A	Conduct weighbridge operations
TLID3011A	Conduct specialised forklift operations
TLIK2010A	Use infotechnology devices in the workplace
TLIP2029A	Prepare and process financial documents

Wine grape growing

FDFWGG2001A	Bench graft vines
FDFWGG2002A	Carry out potting operations
FDFWGG2003A	Hand prune vines
FDFWGG2004A	Undertake irrigation systems maintenance activities
FDFWGG2006A	Obtain and process rootlings
FDFWGG2008A	Train vines
FDFWGG2011A	Install irrigation components
FDFWGG2013A	Deliver injection requirements
FDFWGG2015A	Support mechanical harvesting operations* <i>AHCMOM202A Operate tractors</i>

	<i>FDFWGG2018A Operate vineyard equipment</i>
FDFWGG2016A	Install and maintain vine trellis
FDFWGG2017A	Recognise disorders and identify pests and diseases
FDFWGG2019A	Perform vertebrate pest control activities
FDFWGG2022A	Take and process vine cuttings
FDFWGG2023A	Carry out basic canopy maintenance
FDFWGG2024A	Pick grapes by hand
FDFWGG2025A	Plant vines by hand
FDFWGG3013A	Operate spreading and seeding equipment* <i>AHCMOM202A Operate tractors</i>
AHCARB205A	Operate and maintain chainsaws
AHCCHM101A	Follow basic chemical safety rules
AHCCHM201A	Apply chemicals under supervision
AHCMOM202A	Operate tractors
AHCPCM301A	Implement a plant nutrition program
AHCSOL401A	Sample soils and interpret results
HLTFA301C	Apply first aid

GROUP B: Wine specialist elective Units

- Select a minimum of **seven (7)** Units

Bottling and packaging

FDFBP2004A	Operate the bottle sealing process
FDFBP2006A	Operate traditional sparkling wine processes
FDFBP2007A	Operate the tirage and transfer process
FDFBP2008A	Perform packaging equipment changeover
FDFBP3001A	Operate the bottle filling process

FDFBP3002A	Operate the labelling process
FDFBP3003A	Operate the softpack filling process
FDFOP3002A	Set up a production or packaging line for operation
FDFOP3004A	Operate interrelated processes in a packaging system
FDFTEC4008A	Apply principles of food packaging

Cellar door sales

FDFCD2001A	Conduct winery and/or site tours* <i>FDFCD2002A Promote wine tourism information*</i> <i>SIRXCCS002A Interact with customers</i>
FDFCD2002A	Promote wine tourism information* <i>SIRXCCS002A Interact with customers</i>
FDFCD2004A	Perform cellar door stock control procedures <i>FDFCD2003A Evaluate wines (standard)</i>
FDFCD2005A	Sell cellar door products and services* <i>FDFCD2003A Evaluate wines (standard)</i> <i>SIRXCCS002A Interact with customers</i> <i>SITHFAB009A Provide responsible service of alcohol</i>
FDFCD2006A	Conduct a standard product tasting* <i>FDFCD2003A Evaluate wines (standard)</i> <i>SIRXCCS002A Interact with customers</i> <i>SITHFAB009A Provide responsible service of alcohol</i>
FDFCD3001A	Evaluate wines (advanced)* <i>FDFCD2003A Evaluate wines (standard)</i>
FDFCD3002A	Conduct a specialised product tasting* <i>FDFCD2002A Promote wine tourism information</i> <i>FDFCD2003A Evaluate wines (standard)</i> <i>FDFCD2006A Conduct a standard product tasting</i> <i>SIRXCCS002A Interact with customers</i> <i>SITHFAB009A Provide responsible service of alcohol</i>

FDFCD3003A	Coordinate winery hospitality activities* <i>SIRXCCS002A Interact with customers</i>
SIRXCCS202	Interact with customers
SIRXCCS304	Coordinate interaction with customers
SIRXFIN201	Balance and secure point-of-sale terminal
SIRXICT303	Operate retail information technology systems
SIRXMPR006A	Manage promotional activities
SITHFAB326A	Provide specialised advice on imported wines* <i>SITHFAB009A Provide responsible service of alcohol</i> <i>SITHFAB222A Conduct a product tasting for alcoholic beverages</i> <i>SITHFAB005A Provide table service of alcoholic beverages*</i> <i>SITXOHS002A Follow workplace hygiene procedures</i>

Cellar operations

FDFCEL2005A	Operate the pressing process* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2006A	Operate clarification by separation (centrifugation) process* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2007A	Prepare and monitor wine cultures * <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2008A	Perform dual column distillation (continuous still brandy) operations* <i>FDFCEL2004A Perform single column lees stripping (continuous still brandy) operations*</i> <i>FDFCEL2012A Handle spirits*</i> <i>FDFCEL2019A Carry out transfer operations</i> <i>FDFOP2004A Clean and sanitise equipment</i> <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i>
FDFCEL2010A	Operate the fine filtration process

FDFCEL2012A	Handle spirits* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2013A	Operate the pressure leaf filtration process* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2014A	Operate the rotary vacuum filtration process* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL2017A	Prepare and make additions and finings
FDFCEL3001A	Perform second distillation (pot still brandy) operations* <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i>
FDFCEL3002A	Operate the continuous clarification by separation (flotation) process* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL3003A	Operate the concentration process* <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL3004A	Perform de-aromatising, de-alcoholising or de-sulphuring operations* <i>FDFCEL2018A Carry out inert gas handling operations</i> <i>FDFCEL2019A Carry out transfer operations</i>
FDFCEL3005A	Perform rectification (continuous still) operations* <i>FDFCEL2004A Perform single column lees stripping (continuous still brandy) operations*</i> <i>FDFCEL2012A Handle spirits*</i> <i>FDFCEL2019A Carry out transfer operations</i> <i>FDFOP2004A Clean and sanitise equipment</i> <i>FDFOP2013A Apply sampling procedures</i> <i>MSL973001A Perform basic tests</i>
FDFOP3003A	Operate interrelated processes in a production system

Laboratory

FDFLAB2001A	Perform basic analytical tests* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2002A	Perform basic microbiological tests* <i>FDFLAB2012A Maintain aseptic environment*</i> <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2004A	Prepare laboratory solutions and stains* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2005A	Prepare and pour culture media* <i>FDFLAB2012A Maintain aseptic environment*</i> <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2006A	Record laboratory data
FDFLAB2007A	Standardise laboratory solutions* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2008A	Analyse laboratory data* <i>FDFLAB2006A Record laboratory data</i>
FDFLAB2009A	Perform packaging quality control procedures* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2010A	Prepare product or show samples* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB2012A	Maintain aseptic environment* <i>FDFLAB2011A Use basic laboratory equipment</i>
FDFLAB3001A	Use computer technology for laboratory applications* <i>FDFLAB2008A Analyse laboratory data*</i> <i>FDFLAB2006A Record laboratory data</i>
FDFLAB3002A	Perform non-routine or specialised tests* <i>FDFLAB2006A Record laboratory data,</i> and at least one of the following: <i>FDFLAB2001A Perform basic analytical tests*</i> <i>FDFLAB2011A Use basic laboratory equipment</i>

	<p><i>OR</i></p> <p><i>FDFLAB2002A Perform basic microbiological tests*</i></p> <p><i>FDFLAB2012A Maintain aseptic environment*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p> <p><i>OR</i></p> <p><i>FDFLAB2009A Perform packaging quality control procedures*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p>
FDFLAB3003A	<p>Perform routine troubleshooting procedures*</p> <p><i>FDFLAB2008A Analyse laboratory data*</i></p> <p><i>FDFLAB2006A Record laboratory data</i></p> <p>and at least one of the following:</p> <p><i>FDFLAB2001A Perform basic analytical tests*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p> <p><i>OR</i></p> <p><i>FDFLAB2002A Perform basic microbiological tests*</i></p> <p><i>FDFLAB2012A Maintain aseptic environment*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p> <p><i>OR</i></p> <p><i>FDFLAB2009A Perform packaging quality control procedures*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p>
FDFLAB3004A	<p>Check and maintain readiness of wine testing equipment*</p> <p><i>FDFLAB2006A Record laboratory data</i></p> <p>and at least one of the following:</p> <p><i>FDFLAB2001A Perform basic analytical tests*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p> <p><i>OR</i></p> <p><i>FDFLAB2002A Perform basic microbiological tests*</i></p> <p><i>FDFLAB2012A Maintain aseptic environment*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p> <p><i>OR</i></p> <p><i>FDFLAB2009A Perform packaging quality control procedures*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p>

FDFLAB3005A	<p>Perform instrumental tests or procedures on wine samples*</p> <p><i>FDFLAB2006A Record laboratory data</i></p> <p>and at least one of the following:</p> <p><i>FDFLAB2001A Perform basic analytical tests*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p> <p>OR</p> <p><i>FDFLAB2002A Perform basic microbiological tests*</i></p> <p><i>FDFLAB2012A Maintain aseptic environment*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p> <p>OR</p> <p><i>FDFLAB2009A Perform packaging quality control procedures*</i></p> <p><i>FDFLAB2011A Use basic laboratory equipment</i></p>
-------------	---

Warehousing

TLIA3010A	Coordinate goods to bond premises
TLIA3015A	Complete receipt/despatch documentation
TLIA3016A	Use inventory systems to organise stock control
TLIA3018A	Organise despatch operations
TLIA3019A	Organise receipt operations
TLIA3024A	Organise warehouse records operations
TLIA3026A	Monitor storage facilities
TLIA3038A	Control and order stock

Wine grape growing

FDFWGG2005A	Maintain callusing environment
FDFWGG2007A	Tend containerised nursery plants
FDFWGG2009A	<p>Operate specialised canopy management equipment*</p> <p><i>AHCMOM202A Operate tractors</i></p>
FDFWGG2010A	Field graft vines

FDFWGG2012A	Identify and treat nursery plant disorders
FDFWGG2014A	Operate the irrigation system
FDFWGG2018A	Operate vineyard equipment
FDFWGG2020A	Carry out hot water treatment
FDFWGG2021A	Operate nursery cold storage facilities
FDFWGG3001A	Apply chemicals and biological agents
FDFWGG3002A	Coordinate canopy management activities
FDFWGG3003A	Coordinate crop harvesting activities* <i>FDFWGG2024A Pick grapes by hand</i>
FDFWGG3004A	Coordinate nursery activities* <i>FDFWGG2002A Carry out potting operations</i> <i>FDFWGG2006A Obtain and process rootlings</i> <i>FDFWGG2012A Identify and treat nursery plant disorders</i> <i>FDFWGG3009A Monitor and maintain nursery plants*</i> <i>FDFWGG2007A Tend containerised plants</i>
FDFWGG3005A	Perform field nursery activities
FDFWGG3006A	Coordinate hand pruning activities* <i>FDFWGG2003A Hand prune vines</i>
FDFWGG3007A	Implement an irrigation schedule* <i>FDFWGG2014A Operate the irrigation system</i>
FDFWGG3008A	Operate a mechanical harvester
FDFWGG3009A	Monitor and maintain nursery plants* <i>FDFWGG2007A Tend containerised plants</i> <i>FDFWGG2012A Identify and treat nursery plant disorders</i>
FDFWGG3010A	Implement a soil management program* <i>FDFWGG2018A Operate vineyard equipment</i> <i>FDFWGG3001A Apply chemicals and biological agents</i>
FDFWGG3011A	Perform shed nursery activities

FDFWGG3012A	Monitor and control vine disorders and damage
AHCCHM303A	Prepare and apply chemicals
AHCCHM304A	Transport, handle and store chemicals
AHCPGD301A	Implement a plant establishment program

GROUP C: General elective Units

- Select a maximum of **four (4)** Units.

FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP2005A	Work in a socially diverse environment
FDFOP2013A	Apply sampling procedures
FDFOP2065A	Work in confined spaces in the food and beverage industries* <i>FDFOHS2001A Participate in OHS processes</i>
FDFPPL3001A	Participate in improvement processes
FDFPPL3004A	Lead work teams and groups
FDFPPL3005A	Participate in an audit process* <i>FDFOHS2001A Participate in OHS processes</i> <i>FDFOP2063A Apply quality systems and procedures</i> <i>MSAENV272B Participate in environmentally sustainable work practices</i>
FDFSUG218A	Operate a boiler - basic
FDFSUG222A	Operate a waste water treatment system
FDFTEC3001A	Participate in a HACCP team* <i>FDFFS2001A Implement the food safety program and procedurs</i>
FDFTEC3002A	Implement the pest prevention program
FDFWIN2001A	Perform effectively in a wine industry workplace
FDFWIN2002A	Identify and control risks in own work
BSBINT303B	Organise the importing and exporting of goods

MSS402001A	Apply competitive systems and practices
MSS402002A	Sustain process improvements
MSS402021A	Apply Just in Time procedures
MSS402030A	Apply cost factors to work practices
MSS402031A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSACMT270A	Use sustainable energy practices
MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy
MSAENV472B	Implement and monitor environmentally sustainable work practices
TAEASS401B	Plan assessment activities and processes
TAEASS402B	Assess competence
TAEASS403B	Participate in assessment validation
TAEDEL301A	Provide work skill instruction
TAEDEL404A	Mentor in the workplace

FDF30510 Certificate III in Retail Baking (Cake and Pastry)

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers the retail baking - cake and pastry specialisation within the food processing industry.

Job Roles

The Certificate III in Retail Baking (Cake and Pastry) provides trade baking skills and knowledge for those working in a retail baking environment with a focus on cakes and pastry.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Some Units imported into this Qualification from the SIR07 Retail Services and SIT07 Tourism, Hospitality and Events Training Packages require prerequisite Units in hygiene and food safety from the source Training Packages. These prerequisite Units have not been imported as they duplicate food safety Units already required as core skills within the Food Processing Training Package Qualifications. If selecting these Units, the RTO should facilitate recognition of the FDF Units as suitable prerequisite Unit alternatives.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF20510 Certificate II in Retail Baking Assistance
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake FDF40110 Certificate IV in Food Processing or other suitable Certificate IV Qualifications.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

The following table contains a summary of the employability skills as identified by the retail baking industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Confirm relevant industry and workplace requirements. • Understand personal and team requirements of relevant industry and workplace standards, regulations and policies. • Complete standard documentation. • Use communication technologies efficiently. • Provide relevant work-related information to others. • Ensure records are accurate and legible. • Establish effective working relationships with colleagues. • Undertake interactive workplace communication. • Support team communication practices.
Teamwork	<ul style="list-style-type: none"> • Implement work team reporting requirements. • Work as a team member. • Implement team tasks in accordance with regulatory and workplace requirements. • Work cooperatively with people of different ages, gender, race or religion. • Undertake appropriate and effective communication with team members.
Problem-solving	<ul style="list-style-type: none"> • Identify risks and implement risk control measures for machinery and equipment. • Identify and address problems and faults. • Use problem solving techniques to determine work requirements. • Assess processes and outcomes against quality criteria. • Identify non-compliances. • Implement food safety procedures. • Comply with environmental standards and requirements of the workplace.
Initiative and enterprise	<ul style="list-style-type: none"> • Contribute to continuous improvement processes. • Seek and provide feedback on procedures and processes. • Identify non-conformances to quality standards and take appropriate action. • Rectify problems promptly and appropriately. • Monitor and adjust activity in response to operational variations.

	<ul style="list-style-type: none"> Identify, assess and act on existing and potential risks.
Planning and organising	<ul style="list-style-type: none"> Determine work requirements in order to meet output targets. Identify priorities and variables that impact on work planning. Ensure work tools are ready and available for operations. Plan activities to meet work targets.
Self-management	<ul style="list-style-type: none"> Manage own work to meet performance criteria. Conduct regular housekeeping activities to keep work area clean and tidy at all times. Maintain currency of relevant, work-related information. Monitor own work against quality standards and identify areas for improvement. Understand own work activities and responsibilities. Identify and apply safety procedures, including the use of protective equipment. Manage work load priorities and timelines. Comply with environmental standards and requirements of the workplace.
Learning	<ul style="list-style-type: none"> Recognise limits of own expertise and seek skill development if required. Assess competencies in meeting job requirements. Ask questions to expand own knowledge. Maintain skill and knowledge currency. Participate in learning and development opportunities.
Technology	<ul style="list-style-type: none"> Use baking machines and equipment in correct operational mode. Monitor machine operation. Perform minor maintenance on machinery. Work with technology safely and according to workplace standards.

Packaging Rules

This Qualification requires the achievement of **sixteen (16)** Units of Competency in accordance with the following rules.

Thirteen (13) Core Units

Three (3) Elective Units

Elective selection must include:

- One (1) Group A elective Unit

Two (2) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Units packaged at Group A in FDF20510 Certificate II in Retail Baking Assistance
- Units packaged at FDF40110 Certificate IV in Food Processing (maximum of 1)
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate I level (maximum 1 Unit), Certificate II level (maximum 1 Unit) and Certificate III level

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete all thirteen (13) core Units.

FDFFS2001A	Implement the food safety program and procedures
FDFOHS3001A	Contribute to OHS processes
FDFOP2061A	Use numerical applications in the workplace
FDFOP2064A	Provide and apply workplace information
FDFRB2001A	Form and fill pastry products
FDFRB2002A	Prepare fillings
FDFRB3001A	Produce pastry
FDFRB3003A	Produce sponge, cake and cookie batter
FDFRB3004A	Decorate cakes and cookies
FDFRB3006A	Bake sponges, cakes and cookies
FDFRB3007A	Bake pastry products
FDFRB3012A	Diagnose and respond to product and process faults (pastry, cake and cookies)* <i>FDFRB2001A Form and fill pastry products</i> <i>FDFRB2002A Prepare fillings</i> <i>FDFRB3001A Produce pastry</i>

	<i>FDFRB3003A Produce sponge, cake and cookie batter</i> <i>FDFRB3004A Decorate cake and cookies</i> <i>FDFRB3006A Bake sponges, cakes and cookies</i> <i>FDFRB3007A Bake pastry products</i>
MSAENV272B	Participate in environmentally sustainable work practices

GROUP A

Select a minimum of one (1) Group A elective Units.

FDFOP3005A	Prepare food products using basic cooking methods* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3006A	Identify cultural, religious and dietary requirements for food products
FDFRB2003A	Produce meringue-based products
FDFRB3014A	Produce sweet yeast products
FDFRB3015A	Produce and decorate gateaux and tortes* <i>FDFRB2002A Prepare fillings</i> <i>FDFRB2003A Produce meringue-based products</i> <i>FDFRB3001A Produce pastry</i> <i>FDFRB3003A Produce sponge, cake and cookie batter</i> <i>FDFRB3004A Decorate cakes and cookies</i> <i>FDFRB3006A Bake sponges, cakes and cookies</i> <i>FDFRB3007A Bake pastry products</i>
FDFRB3016A	Plan and schedule production for retail bakery
FDFRB3017A	Participate in product development
FDFPPL3003A	Support and mentor individuals and groups
FDFTEC3001A	Participate in a HACCP team* <i>FDFFS2001A Implement the food safety program and procedures</i>
BSBCUS301B	Deliver and monitor a service to customers
HLTFA301C	Apply first aid
MSS403002A	Ensure process improvements are sustained
SITHCCC022A	Prepare chocolate and chocolate confectionery* <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHFAB012B	Prepare and serve espresso coffee
SITHPAT007A	Prepare and display petits fours* <i>SITHPAT001A Prepare and produce pastries</i>

	<p><i>SITHPAT002A Prepare and produce cakes</i></p> <p><i>SITHPAT003A Prepare and produce yeast goods or,</i></p> <p><i>SITHCCC014A Prepare pastries, cakes and yeast goods*</i></p> <p><i>SITHCCC001B Organise and prepare food</i></p> <p><i>SITHCCC002A Present food</i></p> <p><i>SITHCCC005A Use basic methods of cookery</i></p> <p><i>SITXOHS002A Follow workplace hygiene procedures</i></p>
SITHPAT008A	<p>Prepare and model marzipan*</p> <p><i>SITXOHS002A Follow workplace hygiene procedures</i></p>
SITHPAT010A	<p>Prepare and display sugar work*</p> <p><i>SITXOHS002A Follow workplace hygiene procedures</i></p>
TLIA3038A	Control and order stock

FDF30610 Certificate III in Retail Baking (Bread)

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers the retail baking - bread specialisation within the food processing industry.

Job Roles

The Certificate III in Retail Baking (Bread) provides trade baking skills and knowledge for those working in a retail baking environment with a focus on bread baking.

Some Units imported into this Qualification from the SIR07 Retail Services and SIT07 Tourism, Hospitality and Events Training Packages require prerequisite Units in hygiene and food safety from the source Training Packages. These prerequisite Units have not been imported as they duplicate food safety Units already required as core skills within the Food Processing Training Package Qualifications. If selecting these Units, the RTO should facilitate recognition of the FDF Units as suitable prerequisite Unit alternatives.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF20510 Certificate II in Retail Baking Assistance
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake FDF40110 Certificate IV in Food Processing or other suitable Certificate IV Qualifications.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate III in Retail Baking (Bread)

The following table contains a summary of the employability skills as identified by the retail baking industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Confirm relevant industry and workplace requirements. • Understand personal and team requirements of relevant industry and workplace standards, regulations and policies. • Complete standard documentation. • Use communication technologies efficiently. • Provide relevant work-related information to others. • Ensure records are accurate and legible. • Establish effective working relationships with colleagues. • Undertake interactive workplace communication. • Support team communication practices.
Teamwork	<ul style="list-style-type: none"> • Implement work team reporting requirements. • Work as a team member. • Implement team tasks in accordance with regulatory and workplace requirements. • Work cooperatively with people of different ages, gender, race or religion. • Undertake appropriate and effective communication with team members.
Problem-solving	<ul style="list-style-type: none"> • Identify risks and implement risk control measures for machinery and equipment. • Identify and address problems and faults. • Use problem solving techniques to determine work requirements. • Assess processes and outcomes against quality criteria. • Identify non-compliances. • Comply with environmental standards and requirements of the workplace.
Initiative and enterprise	<ul style="list-style-type: none"> • Contribute to continuous improvement processes. • Seek and provide feedback on procedures and processes. • Identify non-conformances to quality standards and take appropriate action. • Rectify problems promptly and appropriately. • Implement food safety procedures. • Monitor and adjust activity in response to operational

	<p>variations.</p> <ul style="list-style-type: none"> Identify, assess and act on existing and potential risks.
Planning and organising	<ul style="list-style-type: none"> Determine work requirements in order to meet output targets. Identify priorities and variables that impact on work planning. Ensure work tools are ready and available for operations. Plan activities to meet work targets.
Self-management	<ul style="list-style-type: none"> Manage own work to meet performance criteria. Conduct regular housekeeping activities to keep work area clean and tidy at all times. Maintain currency of relevant work-related information. Monitor own work against quality standards and identify areas for improvement. Understand own work activities and responsibilities. Identify and apply safety procedures, including the use of protective equipment. Manage work load priorities and timelines. Comply with environmental standards and requirements of the workplace.
Learning	<ul style="list-style-type: none"> Recognise limits of own expertise and seek skill development if required. Assess competencies in meeting job requirements. Ask questions to expand own knowledge. Maintain skill and knowledge currency. Participate in learning and development opportunities.
Technology	<ul style="list-style-type: none"> Use baking machines and equipment in correct operational mode. Monitor machine operation. Perform minor maintenance on machinery. Work with technology safely and according to workplace standards.

Packaging Rules

This Qualification requires the achievement of **thirteen (13)** Units of Competency in accordance with the following rules.

Nine (9) Core Units

Four (4) Elective Units

Elective selection must include:

- Two (2) Group A elective Units

Two (2) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Units packaged at Group A in FDF20510 Certificate II in Retail Baking Assistance
- Units packaged at FDF40110 Certificate IV in Food Processing (maximum of 1)
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate I level (maximum 1 Unit), Certificate II level (maximum 1 Unit) and Certificate III level

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete all nine (9) core Units.

FDFFS2001A	Implement the food safety program and procedures
FDFOHS3001A	Contribute to OHS processes
FDFOP2061A	Use numerical applications in the workplace
FDFOP2064A	Provide and apply workplace information
FDFRB3002A	Produce bread dough
FDFRB3005A	Bake bread
FDFRB3010A	Process dough
FDFRB3011A	Diagnose and respond to product and process faults (bread)* <i>FDFRB3002A Produce bread dough</i> <i>FDFRB3005A Bake bread</i> <i>FDFRB3010A Process dough</i>
MSAENV272B	Participate in environmentally sustainable work practices

GROUP A

Select a minimum of two (2) Group A elective Units.

FDFOP3005A	Prepare food products using basic cooking methods* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3006A	Identify cultural, religious and dietary requirements for food products
FDFPPL3003A	Support and mentor individuals and groups
FDFRB3008A	Store, handle and use frozen dough
FDFRB3009A	Retard dough
FDFRB3013A	Produce artisan breads* <i>FDFRB3002A Produce bread dough</i> <i>FDFRB3005A Bake bread</i> <i>FDFRB3010A Process dough</i>
FDFRB3016A	Plan and schedule production for retail bakery
FDFRB3017A	Participate in product development
FDFTEC3001A	Participate in a HACCP team* <i>FDFFS2001A Implement the food safety program and procedures</i>
BSBCUS301B	Deliver and monitor a service to customers
BSBSMB401A	Establish legal and risk management requirements of small business
HLTFA301C	Apply first aid
MSS403002A	Ensure process improvements are sustained
SITHFAB012B	Prepare and serve espresso coffee
TLIA3038A	Control and order stock

FDF30710 Certificate III in Retail Baking (Combined)

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers the retail baking - cake and pastry and bread specialisations within the food processing industry.

Job Roles

The Certificate III in Retail Baking (Combined) provides trade baking skills and knowledge for those working in a retail baking environment with a focus on cakes and pastry and bread.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Some Units imported into this Qualification from the SIR07 Retail Services and SIT07 Tourism, Hospitality and Events Training Packages require prerequisite Units in hygiene and food safety from the source Training Packages. These prerequisite Units have not been imported as they duplicate food safety Units already required as core skills within the Food Processing Training Package Qualifications. If selecting these Units, the RTO should facilitate recognition of the FDF Units as suitable prerequisite Unit alternatives.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF20510 Certificate II in Retail Baking Assistance
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake FDF40110 Certificate IV in Food Processing or other suitable Certificate IV Qualifications.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate III in Retail Baking (Combined)

The following table contains a summary of the employability skills as identified by the retail baking industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Confirm relevant industry and workplace requirements. • Understand personal and team requirements of relevant industry and workplace standards, regulations and policies. • Complete standard documentation. • Use communication technologies efficiently. • Provide relevant work-related information to others. • Ensure records are accurate and legible. • Establish effective working relationships with colleagues. • Undertake interactive workplace communication. • Support team communication practices.
Teamwork	<ul style="list-style-type: none"> • Implement work team reporting requirements. • Work as a team member. • Implement team tasks in accordance with regulatory and workplace requirements. • Work cooperatively with people of different ages, gender, race or religion. • Undertake appropriate and effective communication with team members.
Problem-solving	<ul style="list-style-type: none"> • Identify risks and implement risk control measures for machinery and equipment. • Identify and address problems and faults. • Use problem solving techniques to determine work requirements. • Assess processes and outcomes against quality criteria. • Identify non-compliances. • Comply with environmental standards and requirements of the workplace. • Implement food safety procedures.
Initiative and enterprise	<ul style="list-style-type: none"> • Contribute to continuous improvement processes. • Seek and provide feedback on procedures and processes. • Identify non-conformances to quality standards and take appropriate action. • Rectify problems promptly and appropriately. • Monitor and adjust activity in response to operational

	<p>variations.</p> <ul style="list-style-type: none"> • Identify, assess and act on existing and potential risks.
Planning and organising	<ul style="list-style-type: none"> • Determine work requirements in order to meet output targets. • Identify priorities and variables that impact on work planning. • Ensure work tools are ready and available for operations. • Plan activities to meet work targets.
Self-management	<ul style="list-style-type: none"> • Manage own work to meet performance criteria. • Conduct regular housekeeping activities to keep work area clean and tidy at all times. • Maintain currency of relevant work-related information. • Monitor own work against quality standards and identify areas for improvement. • Understand own work activities and responsibilities. • Identify and apply safety procedures, including the use of protective equipment. • Manage work load priorities and timelines. • Comply with environmental standards and requirements of the workplace.
Learning	<ul style="list-style-type: none"> • Recognise limits of own expertise and seek skill development if required. • Assess competencies in meeting job requirements. • Ask questions to expand own knowledge. • Maintain skill and knowledge currency. • Participate in learning and development opportunities.
Technology	<ul style="list-style-type: none"> • Use baking machines and equipment in correct operational mode. • Monitor machine operation. • Perform minor maintenance on machinery. • Work with technology safely and according to workplace standards.

Packaging Rules

This Qualification requires the achievement of **twenty (20)** Units of Competency in accordance with the following rules.

Seventeen (17) Core Units

Three (3) Elective Units

Elective selection must include:

- One (1) Group A elective Unit

Two (2) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Units packaged at Group A in FDF20510 Certificate II in Retail Baking Assistance
- Units packaged at FDF40110 Certificate IV in Food Processing (maximum of 1)
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate I level (maximum 1 Unit), Certificate II level (maximum 1 Unit) and Certificate III level

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete all seventeen (17) core Units.

FDFFS2001A	Implement the food safety program and procedures
FDFOHS3001A	Contribute to OHS processes
FDFOP2061A	Use numerical applications in the workplace
FDFOP2064A	Provide and apply workplace information
FDFRB2001A	Form and fill pastry products
FDFRB2002A	Prepare fillings
FDFRB3001A	Produce pastry
FDFRB3002A	Produce bread dough
FDFRB3003A	Produce sponge, cake and cookie batter
FDFRB3004A	Decorate cakes and cookies
FDFRB3005A	Bake bread
FDFRB3006A	Bake sponges, cakes and cookies
FDFRB3007A	Bake pastry products
FDFRB3010A	Process dough

FDFRB3011A	Diagnose and respond to product and process faults (bread)* <i>FDFRB3002A Produce bread dough</i> <i>FDFRB3005A Bake bread</i> <i>FDFRB3010A Process dough</i>
FDFRB3012A	Diagnose and respond to product and process faults (pastry, cake and cookies)* <i>FDFRB2001A Form and fill pastry products</i> <i>FDFRB2002A Prepare fillings</i> <i>FDFRB3001A Produce pastry</i> <i>FDFRB3003A Produce sponge, cake and cookie batter</i> <i>FDFRB3004A Decorate cake and cookies</i> <i>FDFRB3006A Bake sponges, cakes and cookies</i> <i>FDFRB3007A Bake pastry products</i>
MSAENV272B	Participate in environmentally sustainable work practices

GROUP A

Select a minimum of one (1) Group A elective Units

FDFOP3005A	Prepare food products using basic cooking methods* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3006A	Identify cultural, religious and dietary requirements for food products
FDFPPL3003A	Support and mentor individuals and groups
FDFPPL3004A	Lead work teams and groups
FDFRB2003A	Produce meringue-based products
FDFRB3008A	Store, handle and use frozen dough
FDFRB3009A	Retard dough
FDFRB3013A	Produce artisan breads* <i>FDFRB3002A Produce bread dough</i> <i>FDFRB3005A Bake bread</i> <i>FDFRB3010A Process Dough</i>
FDFRB3014A	Produce sweet yeast products
FDFRB3015A	Produce and decorate gateaux and tortes* <i>FDFRB2002A Prepare fillings</i> <i>FDFRB2003A Produce meringue-based products</i> <i>FDFRB3001A Produce pastry</i> <i>FDFRB3003A Produce sponge, cake and cookie batter</i>

	<i>FDFRB3004A Decorate cakes and cookies</i> <i>FDFRB3006A Bake sponges, cakes and cookies</i> <i>FDFRB3007A Bake pastry products</i>
FDFRB3016A	Plan and schedule production for retail bakery
FDFRB3017A	Participate in product development
FDFTEC3001A	Participate in a HACCP team* <i>FDFFS2001A Implement the food safety program and procedures</i>
BSBCUS301B	Deliver and monitor a service to customers
HLTFA301C	Apply first aid
MSS403002A	Ensure process improvements are sustained
SITHCCC022A	Prepare chocolate and chocolate confectionery* <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHFAB012B	Prepare and serve espresso coffee
SITHPAT007A	Prepare and display petits fours* <i>SITHPAT001A Prepare and produce pastries</i> <i>SITHPAT002A Prepare and produce cakes*</i> <i>SITHPAT003A Prepare and produce yeast goods* or,</i> <i>SITHCCC014A Prepare pastries, cakes and yeast goods*</i> <i>SITHCCC001B Organise and prepare food</i> <i>SITHCCC002A Present food</i> <i>SITHCCC005A Use basic methods of cookery</i> <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHPAT008A	Prepare and model marzipan* <i>SITXOHS002A Follow workplace hygiene procedures</i>
SITHPAT010A	Prepare and display sugar work* <i>SITXOHS002A Follow workplace hygiene procedures</i>
TLIA3038A	Control and order stock

FDF30910 Certificate III in Food Processing (Sales)

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers sales specialisation within the food processing industry.

Job Roles The Certificate III in Food Processing (Sales) targets those providing sales advice and services for manufacturing or retail food processing contexts. This Qualification requires the ability to work independently and as a team member, performing a range of sales activities and applying technical skill and knowledge relating to the food processing industry.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.
-

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF20111 Certificate II in Food Processing or FDF20911 Certificate II in Food Processing (Sales)
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake the FDF40110 Certificate IV in Food Processing or any other suitable Qualification.

Licensing/Regulatory Information

Licensing, Legislative, Regulatory or Certification Considerations There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate III in Food Processing (Sales)

The following table contains a summary of the employability skills as identified by the Food Processing industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Confirm relevant industry and workplace requirements. • Understand personal and team requirements of relevant industry and workplace standards, regulations and policies. • Complete a range of sales related documentation. • Use communication technologies efficiently. • Provide relevant work-related information to others. • Ensure records are accurate and legible. • Establish effective working relationships with colleagues and customers. • Provide advice and information that is relevant to meeting customer needs. • Undertake interactive workplace communication. • Support team communication practices.
Teamwork	<ul style="list-style-type: none"> • Provide support and information to team members • Monitor work team tasks in accordance with regulatory and workplace requirements. • Work cooperatively with people of different ages, gender, race or religion. • Undertake appropriate and effective communication with team members. • Understand and communicate team processes that impact on product availability.
Problem-solving	<ul style="list-style-type: none"> • Identify and address service problems and product faults. • Provide problem solving support to customers and team members. • Evaluate skill requirements of work tasks. • Use problem solving techniques to determine work requirements. • Assess processes and outcomes against quality criteria. • Determine best solutions to meet customer needs. • Ensure customer service is completed according to agreements.
Initiative and enterprise	<ul style="list-style-type: none"> • Contribute to and promote continuous improvement processes. • Seek and provide feedback from customers on procedures and

	<p>processes.</p> <ul style="list-style-type: none"> • Collect and assess data and information on work processes. • Identify non-conformances to standards and take appropriate action. • Rectify problems promptly and appropriately. • Identify, assess and act on existing and potential risks. • Seek ways to ensure customer satisfaction.
Planning and organising	<ul style="list-style-type: none"> • Determine work requirements in order to meet order specifications. • Identify priorities and variables that impact on service delivery. • Plan work tasks for self and others as required. • Communicate plan changes to customers. • Schedule work orders.
Self-management	<ul style="list-style-type: none"> • Manage own work to meet performance criteria. • Monitor information in work area. • Conduct regular housekeeping activities to keep work area clean and tidy at all times. • Maintain currency of relevant, work-related information. • Monitor own work against quality standards and identify areas for improvement. • Understand own work activities and responsibilities. • Identify and apply safety procedures. • Manage work load priorities and timelines.
Learning	<ul style="list-style-type: none"> • Recognise limits of own expertise and seek skill development if required. • Assess competencies in meeting job requirements. • Ask questions to expand own knowledge. • Maintain skill and knowledge currency. • Participate in meetings to inform work practices.
Technology	<ul style="list-style-type: none"> • Use information and communication technology efficiently and safely. • Work with technology safely and according to workplace standards.

Packaging Rules

This Qualification requires the achievement of **fourteen (14)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of eight (8) Units coded FDF.

Six (6) Core Units

Eight (8) Elective Units

Elective selection must include:

- Two (2) Group A elective Units
- Two (2) Group B elective Units

Four (4) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units below, not previously selected
- Group C elective Units
- Units packaged in FDF20310 Certificate II in Food Processing (Sales)
- Units packaged in FDF40110 Certificate IV in Food Processing (maximum of 3)
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate I level (maximum 1 Unit), Certificate II level (maximum 2 Units) and Certificate III level (maximum 3 Units).

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s identified under the Unit.

CORE UNITS

Complete the following six (6) Units.

FDFFS2001A	Implement the food safety program and procedures
FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOHS3001A	Contribute to OHS processes
FDFOP2061A	Use numerical applications in the workplace
FDFOP2064A	Provide and apply workplace information
MSAENV272B	Participate in environmentally sustainable work practices

ELECTIVES

GROUP A

Select a minimum of two (2) Group A elective Units.

BSBCUS301B	Deliver and monitor a service to customers
BSBMKG501B	Identify and evaluate marketing opportunities
BSBMKG507A	Interpret market trends and developments
BSBMKG514A	Implement and monitor marketing activities
BSBSMB301A	Investigate micro business opportunities
BSBSMB401A	Establish legal and risk management requirements of small business
BSBSMB402A	Plan small business finances
BSBSMB403A	Market the small business
BSBSMB404A	Undertake small business planning
BSBSMB405B	Monitor and manage small business operations
BSBSMB406A	Manage small business finances
BSBSMB407A	Manage a small team
SIRXINV002A	Maintain and order stock
SIRXRSK002A	Maintain store security

GROUP B

Select a minimum of two (2) Group B Sector Specialist and Cross Sector elective Units.

Sector Specialist Units	
FDFV3002A	Program fresh produce grading equipment
FDFV3001A	Conduct chemical wash for fresh produce
FDFGR3001A	Work with micronutrients or additions in stockfeed manufacturing processes
FDFGR3002A	Demonstrate knowledge of animal nutrition principles
FDFOP3001A	Control contaminants and allergens in the work area* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3005A	Prepare food products using basic cooking methods* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3006A	Identify cultural, religious and dietary requirements for food products

FD301A	Operate a chickway system
FD302A	Debone and fillet product (manually)
MTMR308C	Prepare and produce value-added products
AHCPHT401A	Assess olive oil for style and quality
Cross Sector Units	
FD302A	Set up a production or packaging line for operation
FD301A	Participate in improvement processes
FD302A	Report on workplace performance
FD303A	Support and mentor individuals and groups
FD304A	Lead work teams and groups
FD305A	Participate in an audit process* <i>FD301A Participate in OHS processes</i> <i>FD303A Apply quality systems and procedures</i> <i>MSAENV272B Participate in environmentally sustainable work practices</i>
FD306A	Establish compliance requirements for work area
FD301A	Participate in a HACCP team* <i>FD301A Implement the food safety program and procedures</i>
FD302A	Implement the pest prevention program
FD303A	Apply raw materials, ingredient and process knowledge to production problems
LMTGN3007B	Monitor and operate trade waste process
MEM13003B	Work safely with industrial chemicals and materials
MSS403011A	Facilitate implementation of competitive systems and practices
MSS403013A	Lead team culture improvement
MSAENV472B	Implement and monitor environmentally sustainable work practices
MSAPMSUP303A	Identify equipment faults
MSAPMSUP330A	Develop and adjust a production schedule
MSL973001A	Perform basic tests
TLIA3015A	Complete receipt/despatch documentation
TLIA3016A	Use inventory systems to organise stock control

TLIA3018A	Organise despatch operations
TLIA3019A	Organise receival operations
TLIA3026A	Monitor storage facilities
TLIA3038A	Control and order stock
TLIA3039A	Receive and store stock

GROUP C

FDFOHS2001A	Participate in OHS processes
FDFOP2063A	Apply quality systems and procedures
BSBWRT301A	Write simple documents
HLTFA301C	Apply first aid
MSS402010A	Manage the impact of change on own work
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
MSS402001A	Apply competitive systems and practices
MSS402002A	Sustain process improvements
MSS403002A	Ensure process improvements are sustained
MSS402021A	Apply Just in Time procedures
MSS402030A	Apply cost factors to work practices
MSS402031A	Interpret product costs in terms of customer requirements
MSS402040A	Apply 5S procedures
MSS402050A	Monitor process capability
MSS402051A	Apply quality standards
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS402081A	Contribute to the application of a proactive maintenance strategy
MSS403021A	Facilitate a Just in Time system
MSS403023A	Monitor a levelled pull system of operations
MSS403040A	Facilitate and improve implementation of 5S
MSS403041A	Facilitate breakthrough improvements

MSS404050A	Undertake process capability improvements* <i>MSS404052A Apply statistics to processes in manufacturing</i>
MSS403051A	Mistake proof an operational process
MSS404052A	Apply statistics to processes in manufacturing
MSS404060A	Facilitate the use of planning software systems in a work area or team
MSS404082A	Assist in implementing a proactive maintenance strategy
MSS404083A	Support proactive maintenance
MSAPMOPS405A	Identify problems in fluid power system
MSAPMOPS406A	Identify problems in electronic control systems
MSAPMPER300C	Issue work permits* <i>RIIRIS201B Conduct local risk control</i>
MSAPMSUP310A	Contribute to the development of plant documentation
MSAPMSUP390A	Use structured problem solving tools
MSL922001A	Record and present data
TAEASS401B	Plan assessment activities and processes
TAEASS402B	Assess competence
TAEASS403B	Participate in assessment validation
TAEDEL301A	Provide work skill instruction

FDF31012 Certificate III in Sugar Milling Industry Operations

Modification History

This qualification has been derived from SUG30102 Certificate III in Sugar Milling. See Qualification Mapping Guide for notes on equivalence.

Description

Job Roles

This qualification covers work undertaken by sugar milling industry workers. Job roles may include for example:

Sugar Processing

Sugar boiler operator

Operator in charge of milling train or power trains

Operator in charge of boiler, milling train and powerhouse

Cane Supply Transport

Loco driver

Traffic officer

Mill Services

Foreman/bridge carpenter

Engine driver in mills

Additional Qualification Advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this qualification include completion of FDF21011 Certificate II in Sugar Industry Operations or equivalent or direct entry.

Pathways from the Qualification

There are no higher level qualifications in sugar industry or sugar milling operations. However these qualifications will provide some credit within higher level Food Processing qualifications.

Australian Apprenticeships

This qualification is suitable for an Australian Apprenticeship.

Licensing/Regulatory Information

There is no direct link between this qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace. There are elective Units available in this Qualification linked to the National Standard for Licensing Persons Performing High Risk Work. Refer to the host Training Package for details about the application of these Units and regulatory frameworks for their use.

Entry Requirements

There are no entry requirements for this qualification.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	<ul style="list-style-type: none"> • Complete all reporting as required • Receive and relay oral and written messages • Read and apply workplace procedures and instructions • Communicate information about problems with work.
Teamwork	<ul style="list-style-type: none"> • Work as a team member • Identify own role and responsibilities within a team • Share workplace information.
Problem-solving	<ul style="list-style-type: none"> • Recognise and report any workplace hazards • Identify common problems and take required action • Follow workplace food safety procedures.
Initiative and Enterprise	<ul style="list-style-type: none"> • Inspect quality of work on an ongoing basis • Take appropriate corrective action to routine work problems • Select appropriate equipment • Distinguish between urgent and non-urgent tasks.
Planning and Organising	<ul style="list-style-type: none"> • Identify work requirements • Identify work priorities • Plan work activities to meet daily work requirements • Direct items to the correct area for further processing • Identify and use relevant personal protective equipment • Organise work area to maintain housekeeping standards • Organise relevant equipment and tools.
Self-management	<ul style="list-style-type: none"> • Identify personal responsibilities and work requirements • Manage time to meet own work requirements • Plan activity to meet own work requirements • Keep the work area clean and tidy at all times • Monitor the quality of own work against quality standards • Follow OHS practices • Identify safety requirements for working in food processing industry • Seek assistance from other team members where appropriate.
Learning	<ul style="list-style-type: none"> • Check work outcomes against workplace standards and identify inconsistencies • Assess own ability to meet job requirements • Listen to feedback and advice of supervisors • Identify own skill requirements and seek skill development if required • Attend training or skill development activities

	<ul style="list-style-type: none">• Ask questions to expand own knowledge• self-check numerical information.
Technology	<ul style="list-style-type: none">• Use work tools, machines and equipment safely and according to workplace procedures• Use manual handling technologies in the workplace• Use information technology devices as required.

Packaging Rules

Complete **twenty four (24)** units of competency in comprised of:

- Three (3) Core Units
- Twenty one (21) Elective Units

Core Units

Unit Code	Unit Title
FDFSUG308A	Analyse and convey workplace information
FDFOHS3001A	Contribute to OHS processes
MSAENV272B	Participate in environmentally sustainable work practices

Elective Units

- Select a minimum of five (5) units from Group A
- Select a minimum of seven (7) additional units from Group A or Group B
- Nine (9) additional units can come from Group A, Group B and or/this or any other endorsed Training Package or accredited course at Certificate I, II, III or IV.
- A maximum of eight (8) units may be packaged at AQF Level 1.
- Selected units must be relevant to job outcomes in the sugar milling industry.

Group A Units

Special Sector Units	
Rail Transport Operations	
FDFSUG301A	Drive a master-slave locomotive * <i>FDFSUG206A Drive a cane locomotive</i>
FDFSUG302A	Control cane traffic movements
FDFSUG303A	Adjust cane delivery schedules to meet daily milling requirements
Factory Operations	
AHCMOM301A	Coordinate machinery and equipment maintenance and repair
AHCMOM302A	Perform machinery maintenance
AHCMOM304A	Operate machinery and equipment
AHCMOM305A	Operate specialised machinery and equipment
FDFSUG304A	Operate a boiler - intermediate

FD3SUG305A	Operate a boiler - advanced
FD3SUG306A	Monitor a sugar mill powerhouse * <i>FD3SUG217A Operate a turbine</i>
FD3SUG309A	Operate a sugar system
Laboratory	
FD3SUG307A	Perform factory control tests
General	
FDFPPL3004A	Lead work teams and groups
TLILIC2016A	Licence to drive heavy rigid vehicle
TLILIC3017A	Licence to drive heavy combination vehicle

Group B Units

FD3SUG201A	Lay sleepers for cane rail systems
FD3SUG202A	Lay rails for cane rail systems
FD3SUG203A	Lay skeleton track for cane rail systems
FD3SUG204A	Operate tamping equipment
FD3SUG205A	Construct turnouts * <i>FD3SUG202A Lay rails for cane rail systems</i>
FD3SUG206A	Drive a cane locomotive
FD3SUG207A	Conduct cane weighbridge operations
FD3SUG208A	Operate a tipping station
FD3SUG209A	Operate an extraction station
FD3SUG210A	Operate a juice clarification process
FD3SUG211A	Operate a mud filtration process
FD3SUG212A	Chemically clean equipment
FD3SUG213A	Operate a pans station
FD3SUG214A	Operate a low grade fugal station

FDFSUG215A	Operate a high grade fugal station
FDFSUG216A	Operate a crystalliser station process
FDFSUG217A	Operate a turbine
FDFSUG218A	Operate a boiler - basic
FDFSUG219A	Operate a bagasse fuel supply system
FDFSUG220A	Operate a coal fuel supply system
FDFSUG221A	Operate an ash separation system
FDFSUG222A	Operate a waste water treatment system
FDFSUG223A	Operate a cooling water system
FDFSUG224A	Perform standard tests on cane samples
FDFSUG225A	Collect and prepare samples
FDFSUG226A	Perform general drilling operations
FDFSUG227A	Perform general lathe operations
FDFSUG228A	Perform general milling operations
FDFSUG229A	Perform general planing and shaping operations
FDFSUG230A	Undertake forming, bending and shaping
FDFSUG231A	Undertake simple fabrication
FDFOP2030A	Operate a process control interface
FDFOP2034A	Operate an evaporation process
AHCMOM203A	Operate basic machinery and equipment
AHCMOM204A	Undertake operational maintenance of machinery
AHCMOM207A	Conduct front end loader operations
CPCCD03011A	Perform dogging * <i>CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry</i>
CPCCR13012A	Perform basic rigging *

	<p><i>CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry</i></p> <p><i>CPCCDO3011A Perform dogging</i></p>
CPCCSC2002A	<p>Erect and dismantle basic scaffolding *</p> <p><i>CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry</i></p>
RIICBM305A	Install pre-cast concrete bridge decks
RIIHAN305A	Operate gantry or overhead crane
RIIMPO319A	Conduct backhoe/loader operations
TLIC2041A	Operate self-propelled equipment on track
TLID3035A	Operate a boom type elevating work platform
TLID3036A	Lift and move load using a mobile crane
TLILIC2001A	Licence to operate a forklift truck
TLILIC2014A	Licence to drive light rigid vehicle
TLILIC2015A	Licence to drive medium rigid vehicle
TLILIC3006A	Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)

FDF40110 Certificate IV in Food Processing

Modification History

September 2012: Replacement of superseded imported Units.

April 2012: Minor typographical corrections.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers a range of food processing industries, such as:

- Baking (including large scale production of cakes, pastry, bread and plant baking)
- Beverages (including juices, soft drinks, cordials, aerated and still waters, energy drinks and other modified beverages, such as vitamin and antioxidant beverages, coffee, tea and ice)
- Confectionery
- Dairy processing
- Fruit and vegetables
- Grocery products and supplies (including honey, jams, spreads, sauces, dressings, condiments, spices, edible oils and fats and pasta)
- Poultry.

Job Roles

The Certificate IV in Food Processing targets those working in supervisory or middle management roles within food processing environments. This Qualification includes technical skill and knowledge required to solve food production problems and ensure that operations are implemented and maintained at optimal performance. Emphasis is on monitoring the implementation of food processing systems and procedures with input into management functions of the organisation.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF30110 Certificate III in Food Processing
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake the FDF50110 Diploma of Food Processing or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate IV in Food Processing

The following table contains a summary of the Employability Skills as identified by the food processing related industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete workplace documentation and records. • Use a range of communication technologies to support work operations. • Develop work instructions, specifications and procedures. • Demonstrate effective and appropriate communication and interpersonal skills when dealing with people. • Communicate with all team members in a professional manner. • Demonstrate effective and appropriate documentation, communication and interpersonal skills when dealing with internal and external clients. • Use most appropriate communication method given priority, cost and audience needs. • Access, interpret and apply technical information. • Analyse data and information to determine implications for work operations.
Teamwork	<ul style="list-style-type: none"> • Work cooperatively with people of different ages, gender, race or religion. • Liaise with and provide support to other team members. • Demonstrate leadership skills. • Identify and manage performance required to meet internal and external customer needs in own work and team work. • Manage organisational processes and provide problem solving support to others.
Problem-solving	<ul style="list-style-type: none"> • Investigate problem causes. • Identify, rectify or report potential and actual problems associated with work operations. • Identify factors which may affect the product or service to be provided. • Use material and process knowledge to solve problems. • Identify hazards and suggest control measures. • Monitor food safety practices. • Implement food safety procedures in the workplace.
Initiative and enterprise	<ul style="list-style-type: none"> • Gather and analyse feedback on products, processes and

	<p>procedures.</p> <ul style="list-style-type: none"> • Assess quality and other indicators of products. • Support achievement of efficient production processes. • Determine and act on situations requiring further information or problem solving. • Assist in the implementation of continuous improvement processes. • Provide leadership in the workplace.
Planning and organising	<ul style="list-style-type: none"> • Identify hazards and implement appropriate hazard control measures. • Demonstrate time management skills. • Source and prepare materials and resources and ensure availability to support work operations. • Schedule and sequence work to maximise safety and productivity. • Optimise work processes.
Self-management	<ul style="list-style-type: none"> • Interpret and apply relevant acts and regulations. • Keep the work area clean and tidy at all times. • Monitor own work and work of team and identify and act on any quality issues. • Manage own time to meet deadlines. • Implement and monitor workplace procedures and instructions.
Learning	<ul style="list-style-type: none"> • Implement learning activities as appropriate to ensure achievement of specified work requirements. • Be supportive, assertive and use interpersonal skills to encourage workplace learning. • Identify own training needs and seek skill development if required. • Gather feedback to own work to assess effectiveness in meeting objectives and integrate information into own practice. • Assess work data and information to identify areas for improved performance.
Technology	<ul style="list-style-type: none"> • Use computer software applications effectively. • Work with machines and workplace technology safely and according to workplace standards. • Help others use technology efficiently and safely. • Ensure readiness and operational efficiency of workplace technology.

Packaging Rules

This Qualification requires the achievement of **twenty two (22)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of twelve (12) Units coded FDF.

Six (6) Core Units

Sixteen (16) Elective Units

Elective selection must include ten (10) Elective Units consisting of:

- A minimum of one (1) Group A elective Unit
- A minimum of one (1) Group B elective Unit
- A minimum of eight (8) Specialist Technical and Cross Sector Group C elective Units

Six (6) remaining elective Units may be selected from:

- Group A, B and C Units listed below, not previously selected
- Group D Units listed below, not previously selected
- Units packaged at Certificate II in Food Processing (maximum of 3)
- Units packaged at Certificate III in Food Processing (maximum of 5)
- Units packaged at Diploma of Food Processing (maximum of 2)
- A maximum of 4 Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate II level (maximum 2 Units), Certificate III level (maximum 2 Units), Certificate IV level (maximum 4 Units), and Diploma level (maximum 2 Units)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s identified under the Unit.

CORE UNITS

Complete all six (6) core Units.

FDFFS2001A	Implement the food safety program and procedures
FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP2061A	Use numerical applications in the workplace
FDFPPL3002A	Report on workplace performance
FDFTEC3003A	Apply raw materials, ingredient and process knowledge to production problems
MSAENV472B	Implement and monitor environmentally sustainable work practices

ELECTIVE UNITS

GROUP A

Select a minimum of one (1) Group A elective Units.

FDFOHS4001A	Identify, assess and control OHS risk in own work
FDFOHS4002A	Maintain OHS processes

GROUP B

Select a minimum of one (1) Group B elective Units.

FDFOP3003A	Operate interrelated processes in a production system
FDFOP3004A	Operate interrelated processes in a packaging system

GROUP C

Select a minimum of eight (8) Group C Specialist Technical and Cross Sector elective units.

Specialist Technical units	
FDFPPL4002A	Plan and coordinate maintenance
FDFPPL4004A	Optimise a work process* <i>FDFPPL3001A Participate in improvement processes</i>
FDFPPL4005A	Establish process capability* <i>FDFOP2015A Apply principles of statistical process control</i> <i>FDFOP2061A Use numerical applications in the workplace</i> <i>FDFTEC4007A Describe and analyse data using mathematical principles</i>
FDFTEC4001A	Determine handling processes for perishable food items
FDFTEC4002A	Manage controlled atmosphere storage
FDFTEC4003A	Control food contamination and spoilage* <i>FDFFS3001A Monitor the implementation of quality and food safety programs</i>
FDFTEC4004A	Apply basic process engineering principles to food processing* <i>FDFTEC4007A Describe and analyse data using mathematical principles</i> <i>FDFOP2030A Operate a process control interface</i>
FDFTEC4005A	Apply an understanding of food additives
FDFTEC4006A	Apply an understanding of legal requirements of food production
FDFTEC4007A	Describe and analyse data using mathematical principles* <i>FDFOP2015A Apply principles of statistical process control</i>

	<i>FDFOP2061A Use numerical applications in the workplace</i>
FDFTEC4008A	Apply principles of food packaging
FDFTEC4009A	Identify the physical and chemical properties of materials, food and related products
FDFTEC4010A	Manage water treatment processes* <i>MSAENV272B Participate in environmentally sustainable work practices</i>
FDFTEC4011A	Participate in product recalls* <i>FDFFS3001A Monitor the implementation of quality and food safety programs</i> <i>FDFFS2001A Implement the food safety program and procedures</i>
MSS404081A	Undertake proactive maintenance analyses
MSS404082A	Assist in implementing a proactive maintenance strategy
MSS404083A	Support proactive maintenance
MSAPMOPS400A	Optimise process_plant area* <i>MSAPMSUP390A Use structured problem solving tools</i>
MSAPMOPS401A	Trial new process or product
MSAPMOPS404A	Co-ordinate maintenance
MSAPMOPS405A	Identify problems in fluid power system
MSAPMOPS406A	Identify problems in electronic control systems
PMASUP420B	Minimise environmental impact of process
PMBTECH406A	Diagnose production equipment problems
Cross Sector units	
FDFAU4001A	Assess compliance with food safety programs
FDFAU4002A	Communicate and negotiate to conduct food safety audits
FDFAU4003A	Conduct food safety audits
FDFAU4004A	Identify, evaluate and control food safety hazards
FDFAU4005A	Audit bivalve mollusc growing and harvesting processes* <i>FDFAU4002A Communicate and negotiate to conduct food safety audits</i> <i>FDFAU4003A Conduct food safety audits</i> <i>FDFAU4004A Identify, evaluate and control food safety hazards</i>
FDFAU4006A	Audit a cook chill process* <i>FDFAU4002A Communicate and negotiate to conduct food safety audits</i>

	<i>FDFAU4003A Conduct food safety audits</i> <i>FDFAU4004A Identify, evaluate and control food safety hazards</i>
FDFAU4007B	Audit a heat treatment process* <i>FDFAU4002A Communicate and negotiate to conduct food safety audits</i> <i>FDFAU4003A Conduct food safety audits</i> <i>FDFAU4004A Identify, evaluate and control food safety hazards</i>
FDFAU4008A	Audit manufacturing of ready-to-eat meat products* <i>FDFAU4002A Communicate and negotiate to conduct food safety audits</i> <i>FDFAU4003A Conduct food safety audits</i> <i>FDFAU4004A Identify, evaluate and control food safety hazards</i>
FDFPPL4001A	Manage people in the work area* <i>FDFPPL3003A Support and mentor individuals and groups</i>
FDFPPL4003A	Schedule and manage production
FDFPPL4006A	Manage a work area within budget
FDFPPL4007A	Manage supplier agreements and contracts
FDFPPL4008A	Manage internal audits* <i>FDFOP2063A Apply quality systems and procedures</i> <i>FDFPPL3005A Participate in an audit process</i> <i>MSAENV272B Participate in environmentally sustainable work practices</i>
BSBLED401A	Develop teams and individuals
BSBMGT402A	Implement operational plan
BSBMGT403A	Implement continuous improvement
BSBSMB407A	Manage a small team
MSS403001A	Implement competitive systems and practices
MSS403002A	Ensure process improvements are sustained
MSS403011A	Facilitate implementation of competitive systems and practices
MSS403030A	Improve cost factors in work practices
MSS403032A	Analyse manual handling processes
MSS403051A	Mistake proof an operational process
MSS404050A	Undertake process capability improvements* <i>MSS404052A Apply statistics to operational processes</i>
MSS404052A	Apply statistics to operational processes

TAEASS401B	Plan assessment activities and processes
TAEASS402B	Assess competence
TAEASS403B	Participate in assessment validation
TAEDDES401B	Design and develop learning programs

GROUP D

FDFOHS2001A	Participate in OHS processes
FDFOP2030A	Operate a process control interface
FDFOP2063A	Apply quality systems and procedures
FDFPPL3005A	Participate in audit processes* <i>FDFOHS2001A Participate in OHS processes</i> <i>FDFOP2063A Apply quality systems and procedures</i> <i>MSAENV272B Participate in environmentally sustainable work practices</i>
AHCBUS405A	Participate in an e-business supply chain
BSBCUS501C	Manage quality customer service
BSBHRM402A	Recruit, select and induct staff
BSBINN301A	Promote innovation in a team environment
BSBMGT401A	Show leadership in the workplace
BSBRES401A	Analyse and present research information
BSBSMB401A	Establish legal and risk management requirements of small business
BSBSMB402A	Plan small business finances
BSBSMB403A	Market the small business
BSBSMB404A	Undertake small business planning
BSBSMB405B	Monitor and manage small business operations
BSBSMB406A	Manage small business finances
BSBWOR401A	Establish effective workplace relationships
BSBWOR402A	Promote team effectiveness
BSBWOR403A	Manage stress in the workplace
BSBWOR404B	Develop work priorities
BSBWRT401A	Write complex documents

MEM15001B	Perform basic statistical quality control
RIIRIS201B	Conduct local risk control
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS403005A	Facilitate use of a Balanced Scorecard for performance improvement
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
MSS403013A	Lead team culture improvement
MSS403021A	Facilitate a Just in Time system
MSS403023A	Monitor a levelled pull system of operations
MSS403040A	Facilitate and improve implementation of 5S
MSS403041A	Facilitate breakthrough improvements
MSS404053A	Use six sigma techniques* <i>MSS404052A Apply statistics to operational processes</i>
MSS404060A	Facilitate the use of planning software systems in a work area or team
MSS404061A	Facilitate the use of SCADA systems in a team or work area
MSAENV272B	Participate in environmentally sustainable work practices
MSAPMPER201A	Monitor and control work permits
MSAPMPER300C	Issue work permits* <i>RIIRIS201B Conduct local risk control</i>
MSAPMPER400A	Coordinate permit process* <i>MSAPMPER300C Issue work permits*</i> <i>RIIRIS201B Conduct local risk control</i>
MSAPMSUP310A	Contribute to development of plant documentation
MSAPMSUP390A	Use structured problem solving tools

FDF40210 Certificate IV in Pharmaceutical Manufacturing

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers the Pharmaceutical Manufacturing specialisation.

Job Roles

The Certificate IV in Pharmaceutical Manufacturing targets those working in supervisory, middle management or those requiring technical roles within pharmaceutical manufacturing environments. Emphasis is on monitoring of pharmaceutical manufacturing systems and procedures with input into management functions of the organisation.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this qualification include:

- FDF30210 Certificate III in Pharmaceutical Manufacturing
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this qualification, candidates may undertake the FDF50210 Diploma of Pharmaceutical Manufacturing or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, an individual Unit of Competency may specify relevant licensing, legislative and/or regulatory requirements. In addition, all work must comply with Good Manufacturing Practice, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Certificate IV in Pharmaceutical Manufacturing

The following table contains a summary of the Employability Skills as identified by the pharmaceutical manufacturing related industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete workplace documentation and records. • Use a range of communication technologies to support work operations. • Develop work instructions, specifications and procedures. • Demonstrate effective and appropriate communication and interpersonal skills when dealing with people. • Communicate with all team members in a professional manner. • Demonstrate effective and appropriate documentation, communication and interpersonal skills when dealing with internal and external clients. • Use most appropriate communication method given priority, cost and audience needs. • Access, interpret and apply technical information. • Analyse data and information to determine implications for work operations.
Teamwork	<ul style="list-style-type: none"> • Work cooperatively with people of different ages, gender, race or religion. • Liaise with and provide support to other team members. • Demonstrate leadership skills. • Identify and manage performance required to meet internal and external customer needs in own work and team work. • Manage organisational processes and provide problem solving support to others.
Problem-solving	<ul style="list-style-type: none"> • Investigate problem causes. • Identify, rectify or report potential and actual problems associated with work operations. • Identify factors which may affect the product or service to be provided. • Use material and process knowledge to solve problems. • Identify hazards and suggest control measures. • Monitor food safety practices.
Initiative and enterprise	<ul style="list-style-type: none"> • Gather and analyse feedback on products, processes and procedures.

	<ul style="list-style-type: none"> • Assess quality and other indicators of products. • Support achievement of efficient production processes. • Determine and act on situations requiring further information or problem solving. • Assist in the implementation of continuous improvement processes. • Provide leadership in the workplace.
Planning and organising	<ul style="list-style-type: none"> • Identify hazards and implement appropriate hazard control measures. • Demonstrate time management skills. • Source and prepare materials and resources and ensure availability to support work operations. • Schedule and sequence work to maximise safety and productivity. • Optimise work processes.
Self-management	<ul style="list-style-type: none"> • Interpret and apply relevant acts and regulations. • Keep the work area clean and tidy at all times. • Monitor own work and work of team and identify and act on any quality issues. • Manage own time to meet deadlines. • Implement and monitor workplace procedures and instructions.
Learning	<ul style="list-style-type: none"> • Implement learning activities as appropriate to ensure achievement of specified work requirements. • Be supportive, assertive and use interpersonal skills to encourage workplace learning. • Identify own training needs and seek skill development if required. • Gather feedback to own work to assess effectiveness in meeting objectives and integrate information into own practice. • Assess work data and information to identify areas for improved performance.
Technology	<ul style="list-style-type: none"> • Use computer software applications effectively. • Work with technology safely and according to workplace standards. • Help others use technology efficiently and safely. • Ensure readiness and operational efficiency of workplace technology.

Packaging Rules

This Qualification requires the achievement of **twenty one (21)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of eleven (11) Units coded FDF.

Seven (7) Core Units

Fourteen (14) Elective Units

Elective selection must include:

- A minimum of one (1) Group A elective Unit
- A minimum of one (1) Group B elective Unit
- A minimum of five (5) Specialist Technical Group C elective Units

Seven (7) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units below, not previously selected
- Group C elective Units below, not previously selected
- Group D elective Units
- Units packaged at FDF20210 Certificate II in Pharmaceutical Manufacturing (maximum of 3)
- Units packaged at FDF30210 Certificate III in Pharmaceutical Manufacturing (maximum of 5)
- Units packaged at FDF50210 Diploma of Pharmaceutical Manufacturing (maximum of 2)
- A maximum of 4 Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate II level (maximum 2 Units), Certificate III level (maximum 2 Units), Certificate IV level (maximum 4 Units), and Diploma level (maximum 2 Units)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s identified under the Unit.

CORE UNITS

Complete the following seven (7) Units.

FDFPH4001A	Prepare and review workplace documentation to support Good Manufacturing Practice
FDFPH4002A	Facilitate and monitor Good Manufacturing Practice
FDFPH4003A	Facilitate contamination control
FDFPH4005A	Participate in validation processes
FDFPH4006A	Respond to non-conformance
FDFPPL3002A	Report on workplace performance

MSAENV472B	Implement and monitor environmentally sustainable work practices
------------	--

ELECTIVE UNITS

Select a minimum of one (1) Group A elective Unit.

GROUP A

FDFOHS4001A	Identify, assess and control OHS risk in own work
FDFOHS4002A	Maintain OHS processes

Select a minimum of one (1) Group B elective Unit

GROUP B

FDFOP3003A	Operate interrelated processes in a production system
FDFOP3004A	Operate interrelated processes in a packaging system

Select a minimum of five (5) Group C Specialist Technical and Cross Sector elective Units.

GROUP C

Specialist Technical units	
FDFPH4004A	Participate in change control procedures
FDFPH4005A	Participate in validation processes
FDFPPL4002A	Plan and coordinate maintenance
FDFPPL4004A	Optimise a work process* <i>FDFPPL3001A Participate in improvement processes</i>
FDFPPL4005A	Establish process capability* <i>FDFOP2015A Apply principles of statistical process control</i> <i>FDFOP2061A Use numerical applications in the workplace</i> <i>FDFTEC4007A Describe and analyse data using mathematical principles</i>
FDFTEC4001A	Determine handling processes for perishable food items
FDFTEC4002A	Manage controlled atmosphere storage
FDFTEC4003A	Control food contamination and spoilage* <i>FDFFS3001A Monitor the implementation of quality and food safety programs</i>
FDFTEC4004A	Apply basic process engineering principles to food processing* <i>FDFOP2030A Operate a process control interface</i>

	<i>FDTEC4007A Describe and analyse data using mathematical principles</i>
FDTEC4005A	Apply an understanding of food additives
FDTEC4006A	Apply an understanding of legal requirements of food production
FDTEC4007A	Describe and analyse data using mathematical principles* <i>FDOP2015A Apply principle of statistical process control</i> <i>FDOP2061A Use numerical applications in the workplace</i>
FDTEC4008A	Apply principles of food packaging
FDTEC4009A	Identify the physical and chemical properties of materials, food and related products
FDTEC4010A	Manage water treatment processes* <i>MSAENV272B Participate in environmentally sustainable work practices</i>
FDTEC4011A	Participate in product recalls* <i>FDFFS3001A Monitor the implementation of quality and food safety programs</i>
MSS404081A	Undertake proactive maintenance analyses
MSS404082A	Assist in implementing a proactive maintenance strategy
MSS404083A	Support proactive maintenance
MSAPMOPS404A	Co-ordinate maintenance
MSAPMOPS405A	Identify problems in fluid power system
MSAPMOPS406A	Identify problems in electronic control systems
MSAPMOPS401A	Trial new process or product
MSAPMOPS400A	Optimise process_plant area* <i>MSAPMSUP390A Use structured problem solving tools</i>
PMASUP420B	Minimise environmental impact of process
PMBTECH406A	Diagnose production equipment problems
Cross Sector units	
FDPPPL4001A	Manage people in the work area* <i>FDPPPL3003A Support and mentor individuals and groups</i>
FDPPPL4003A	Schedule and manage production
FDPPPL4006A	Manage a work area within budget
FDPPPL4007A	Manage supplier agreements and contracts
FDPPPL4008A	Manage internal audits* <i>FDFOHS2001A Participate in OHS processes</i>

	<i>FD40210 Certificate IV in Pharmaceutical Manufacturing</i> <i>FD40210 Certificate IV in Pharmaceutical Manufacturing</i> MSAENV272B Participate in environmentally sustainable work practices
BSBINN301A	Promote innovation in a team environment
BSBLED401A	Develop teams and individuals
BSBMGT402A	Implement operational plan
BSBMGT403A	Implement continuous improvement
BSBSMB407A	Manage a small team
MSS403001A	Implement competitive systems and practices
MSS403002A	Ensure process improvements are sustained
MSS403011A	Facilitate implementation of competitive systems and practices
MSS403030A	Improve cost factors in work practices
MSS403032A	Analyse manual handling processes
MSS403051A	Mistake proof an operational process
MSS404050A	Undertake process capability improvements* <i>MSS404052A Apply statistics to operational processes</i>
MSS404052A	Apply statistics to operational processes
TAEASS401B	Plan assessment activities and processes
TAEASS402B	Assess competence
TAEASS403B	Participate in assessment validation
TAEDDES401A	Design and develop learning programs

GROUP D

FDFOHS2001A	Participate in OHS processes
FDFOP2030A	Operate a process control interface
FDFOP2061A	Use numerical applications in the workplace
FDFOP2063A	Apply quality systems and procedures
FDFPPL3005A	Participate in audit processes
AHCBUS405A	Participate in an e-business supply chain
BSBCUS501C	Manage quality customer service
BSBHRM402A	Recruit, select and induct staff
BSBMGT401A	Show leadership in the workplace

BSBRES401A	Analyse and present research information
BSBSMB401A	Establish legal and risk management requirements of small business
BSBSMB402A	Plan small business finances
BSBSMB403A	Market the small business
BSBSMB404A	Undertake small business planning
BSBSMB405B	Monitor and manage small business operations
BSBSMB406A	Manage small business finances
BSBWOR401A	Establish effective workplace relationships
BSBWOR402A	Promote team effectiveness
BSBWOR403A	Manage stress in the workplace
BSBWOR404B	Develop work priorities
BSBWRT401A	Write complex documents
MEM15001B	Perform basic statistical quality control
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS403005A	Facilitate use of a Balanced Scorecard for performance improvement
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
MSS403013A	Lead team culture improvement
MSS403021A	Facilitate a Just in Time system
MSS403023A	Monitor a levelled pull system of operations
MSS403040A	Facilitate and improve implementation in 5S
MSS403041A	Facilitate breakthrough improvements
MSS404053A	Use six sigma techniques* <i>MSS404052A Apply statistics to operational processes</i>
MSS404060A	Facilitate the use of planning software systems in a work area or team
MSS404061A	Facilitate the use of SCADA systems in a team or work area
MSAENV272B	Participate in environmentally sustainable work practices
MSAPMPER201A	Monitor and control work permits
MSAPMPER300C	Issue work permits*

	<i>RIIRIS201B Conduct local risk control</i>
MSAPMPER400A	Coordinate permit process* <i>MSAPMPER300C Issue work permits*</i> <i>RIIRIS201B Conduct local risk control</i>
MSAPMSUP310A	Contribute to the development of plant documentation
MSAPMSUP390A	Use structured problem solving tools
RIIRIS201B	Conduct local risk control

FDF40311 Certificate IV in Food Science and Technology

Modification History

September 2012: Replacement of superseded imported Units.

April 2012: Minor typographical corrections.

Description

This Qualification provides a senior technical level occupational outcome in food processing and supporting functions and covers a range of food related industries including but not limited to:

- general food processing
- meat
- seafood
- poultry including chicken meat and egg processing
- dairy processing
- confectionery
- beverages
- baking and cereals.

Job roles

This Qualification targets those working in technical and supervisory roles covering product development, food safety and quality, food production and distribution, environmental functions, and the maintenance and monitoring of food processing systems. The job role requires technical skills and knowledge in the science and technology that support food processing.

Job titles may include:

- food technologist
- production line manager
- quality systems coordinator
- food safety systems officer
- product development team member
- processing systems coordinator
- environmental systems officer (food processing).

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake FDF50311 Diploma of Food Science and Technology.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete workplace documentation and records. • Use a range of communication technologies to support work operations. • Develop work instructions, specifications and procedures. • Demonstrate effective and appropriate communication and interpersonal skills when dealing with people. • Communicate with all team members in a professional manner. • Demonstrate effective and appropriate documentation, communication and interpersonal skills when dealing with internal and external clients. • Use most appropriate communication method given priority, cost and audience needs. • Access, interpret and apply technical information. • Use written materials and personal presentations to convey information.
Teamwork	<ul style="list-style-type: none"> • Work cooperatively with people of different ages, gender, race or religion. • Liaise with and provide support to other team members. • Demonstrate leadership skills. • Identify and manage performance required to meet internal and external customer needs in own work and team work. • Manage organisational processes and provide problem solving support to others. • Contribute to team efforts in solving problems and making changes.
Problem solving	<ul style="list-style-type: none"> • Investigate problem causes. • Identify, rectify or report potential and actual problems associated with work operations. • Identify factors which may affect the product or service to be provided. • Use material and process knowledge to solve problems. • Identify hazards and suggest control measures. • Monitor food safety practices and resolve issues. • Implement food safety procedures in the workplace. • Analyse data and information to determine implications for work operations. • Demonstrate a systematic approach to problem solving.
Initiative and enterprise	<ul style="list-style-type: none"> • Gather and analyse feedback on products, processes and procedures.

	<ul style="list-style-type: none"> • Assess quality and other indicators of products. • Source information to provide background to decision making. • Support achievement of efficient production processes. • Determine and act on situations requiring further information or problem solving. • Assist in the implementation of continuous improvement processes. • Provide leadership in the workplace.
Planning and organising	<ul style="list-style-type: none"> • Identify hazards and implement appropriate hazard control measures. • Demonstrate time management skills. • Source and prepare materials and resources and ensure availability to support work operations. • Schedule and sequence work to maximise safety and productivity. • Plan for production and organise processing through a knowledge of process control. • Plan and organise the collection of data. • Optimise work processes.
Self-management	<ul style="list-style-type: none"> • Interpret and apply relevant acts and regulations. • Keep the work area clean and tidy at all times. • Monitor own work and work of team and identify and act on any quality issues. • Manage own time to meet deadlines. • Implement and monitor workplace procedures and instructions. • Manage work time to incorporate investigations, data collection and reporting into work flow.
Learning	<ul style="list-style-type: none"> • Implement learning activities as appropriate to ensure achievement of specified work requirements. • Be supportive, assertive and use interpersonal skills to encourage workplace learning. • Identify own training needs and seek skill development if required. • Gather feedback to own work to assess effectiveness in meeting objectives and integrate information into own practice. • Assess work data and information to identify areas for improved performance. • Maintain currency of industry skills and knowledge. • Maintain technical knowledge through reading, research and professional conversations.
Technology	<ul style="list-style-type: none"> • Select and use computer software applications to support research, analysis of findings and reporting. • Work with machines and workplace technology safely and

	<p>according to workplace standards.</p> <ul style="list-style-type: none">• Help others use technology efficiently and safely.• Ensure readiness and operational efficiency of workplace technology.• Apply high-level technical skills in chemical and biological analysis techniques.• Integrate technology into existing production processes.
--	---

Packaging Rules

This Qualification requires the achievement of **twenty (20)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of twelve (12) Units coded FDF or MTM.

Twelve (12) Core Units

Eight (8) Elective Units

Elective selection must include:

- Three (3) elective Units from Group A
- Two (2) elective Units from Groups A or B.

Three (3) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units below, not previously selected
- A maximum of 3 Units from any nationally endorsed Training Package or accredited course that are packaged at Certificate III level, Certificate IV level or Diploma level.

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete all twelve (12) core Units.

FDFFS2001A	Implement the food safety program and procedures
FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFFS4001A	Supervise and maintain a food safety plan
FDFFST4002A	Monitor the development and implementation of a food QA system
FDFFST4004A	Perform microbiological procedures in the food industry
FDFFST4007A	Establish operational requirements for a food processing enterprise
FDFOHS4002A	Maintain OHS processes
FDFOP2015A	Apply principle of statistical process control* <i>FDFOP2061A Use numerical applications in the workplace</i>
FDFTEC4003A	Control food contamination and spoilage*

	<i>FDFFS3001A Monitor the implementation of quality and food safety programs*</i> <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFTEC4007A	Describe and analyse data using mathematical principles* <i>FDFOP2015A Apply principle of statistical process control*</i> <i>FDFOP2061A Use numerical applications in the workplace</i>
MSAENV472B	Implement and monitor environmentally sustainable work practices
MSL974003A	Perform chemical tests and procedures

GROUP A: TECHNICAL ELECTIVES

Select a minimum of three (3) elective Units from Group A.

Scientific principles and laboratory operations

MSL974004A	Perform food tests
FDFOP2061A	Use numerical applications in the workplace
FDFST4010A	Apply sensory analysis in food processing
FDFST4011A	Apply the principles of nutrition to food processing
FDFTEC4009A	Identify the physical and chemical properties of materials, food and related products

Food quality and safety

FDFAU4001A	Assess compliance with food safety programs
FDFAU4002A	Communicate and negotiate to conduct food safety audits
FDFAU4003A	Conduct food safety audits
FDFAU4004A	Identify, evaluate and control food safety hazards
FDFFS4002A	Supervise and verify supporting programs for food safety

Food processing

FDFST4001A	Apply food processing technologies
FDFST4003A	Apply digital technology in food processing

FDFST4005A	Document processes and procedures for a food product
FDFST4006A	Apply food preservation technologies

Manufacturing systems

FDFPPL4005A	Establish process capability* <i>FDFOP2015A Apply principle of statistical process control*</i> <i>FDFOP2061A Use numerical applications in the workplace</i> <i>FDFTEC4007A Describe and analyse data using mathematical principles</i>
FDFTEC4002A	Manage controlled atmosphere storage
FDFTEC4004A	Apply basic engineering principles to food processing* <i>FDFOP2030A Operate a process control interface</i> <i>FDFTEC4007A Describe and analyse data using mathematical principles*</i> <i>FDFOP2015A Apply principle of statistical process control*</i> <i>FDFOP2061A Use numerical applications in the workplace</i>
FDFTEC4011A	Participate in product recalls* <i>FDFFS3001A Monitor the implementation of quality and food safety programs*</i> <i>FDFFS2001A Implement the food safety program and procedures</i>
MSS402080A	Undertake root cause analysis
MSS403010A	Facilitate change in an organisation implementing competitive systems and practice
MSS403013A	Lead team culture improvement
MSAPMOPS401A	Trial new process or product
MSAPMSUP390A	Use structured problem solving tools

Environment

FDFST4012A	Apply water management principles to the food industry
------------	--

Packaging and labelling

FDFST4008A	Preserve food in cans or sealed containers
FDFST4009A	Label foods according to legislative requirements
FDFTEC4008A	Apply principles of food packaging

GROUP B: INDUSTRY SPECIALISATION ELECTIVES

Select a minimum of two (2) elective Units from Group A or B.

Meat processing

MTMCOR202A	Apply hygiene and sanitation practices
MTMCOR404A	Facilitate hygiene and sanitation performance
MTMP402B	Implement a Meat Hygiene Assessment Program
MTMP404B	Apply meat science
MTMPS411C	Monitor a meat preservation process
MTMPS412C	Monitor and overview the production of processed meats and smallgoods
MTMPS414B	Monitor and overview the production of Uncooked Comminuted Fermented Meat (UCFM)* <i>MTMCOR202A Apply hygiene and sanitation practices</i> <i>MTMCOR404A Facilitate hygiene and sanitation performance</i>
MTMPSR407A	Assess and evaluate meat industry requirements and processes
MTMPSR408A	Specify beef product using AUS-MEAT language
MTMPSR409A	Specify sheep product using AUS-MEAT language
MTMPSR410A	Specify pork product using AUS-MEAT language

Dairy processing

FDFST4020A	Implement and review the processing of market milk and related products
FDFST4021A	Carry out sampling and testing of milk at receipt
FDFST4022A	Implement and review the preparation of milk for processing

Confectionery manufacture

FDFFST4030A	Implement and review the processing of chocolate and sugar-panned products
FDFFST4031A	Implement and review the processing of aerated confectioneries
FDFFST4032A	Implement and review the production of gums and jellies
FDFFST4033A	Implement and review the production of chocolate products
FDFFST4034A	Implement and review the processing of chocolate
FDFFST4035A	Implement and review the processing of high and low boil confectionery
FDFFST4036A	Implement and review the processing of confectionery products

Poultry industry processing

FDFFST4040A	Identify and implement product safety and quality for chilled or frozen poultry product manufacturing
FDFFST4041A	Identify and implement product safety and quality for cooked poultry product manufacturing
FDFFST4042A	Identify and implement product safety and quality for egg-based product manufacturing

Cheese production

FDFFCH4001A	Carry out sampling and interpret tests for cheese production* <i>MSL973001A Perform basic tests</i>
FDFFCH4002A	Produce acid-coagulated soft cheese
FDFFCH4003A	Produce a range of rennet-coagulated cheeses
FDFFCH4004A	Produce acid/heat-coagulated cooked cheese
MSL973001A	Perform basic tests

Other sectors

FDFFST4050A	Identify and implement product safety and quality for processing of fruit, vegetables and other produce
FDFFST4051A	Identify and implement product safety and quality processes for

	fish and seafood products
FDFST4052A	Implement and review the manufacturing and processing of edible fats and oils
FDFST4053A	Implement and review manufacturing, packaging and testing of beverage products
FDFST4054A	Identify and implement product safety and quality for manufacturing of cereal products

FDF40811 Certificate IV in Advanced Baking

Modification History

September 2012: Replacement of superseded imported Units.

Description

This Qualification covers post-trade outcomes for retail bakers, bread makers and pastry cooks. It may be packaged to reflect a specialisation in advanced technical baking skills or in bakery business management skills, or to reflect a combination of both.

Testamur issued for this Qualification are to be titled 'Certificate IV in Advanced Baking'. An additional descriptor may be added by the RTO to reflect Unit selection. When a minimum of four (4) Technical Baking stream Units is selected, the testamur may be titled Certificate IV in Advanced Baking (Technical Baking). When a minimum of four (4) Baking Business Operations stream Units is selected, the testamur may be titled Certificate IV in Advanced Baking (Baking Business Operations).

Job roles

The FDF40811 Certificate IV in Advanced Baking targets those working in a retail baking enterprise as owners, managers and/or senior bakers or pastry cooks.

This Qualification includes technical, artisan and creative skills and knowledge required to produce bakery products, solve baking problems, and ensure that operations are implemented and maintained to optimal performance. It also covers skills in monitoring the implementation of systems and procedures, and management functions of the organisation.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Units completed as part of a Certificate III in Retail Baking can be counted towards the Units required for FDF40811 Certificate IV in Advanced Baking where they are listed in the Certificate IV packaging rules.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake FDF50110 Diploma of Food Processing or any other suitable Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

This Qualification is a post-trade Qualification and requires one of the following trade-related Qualifications for entry:

- FDF30510 Certificate III in Retail Baking (Cake and Pastry)
- FDF30610 Certificate III in Retail Baking (Bread)
- FDF30710 Certificate III in Retail Baking (Combined)

Entry may also occur on the basis of an RTO assessment of equivalent industry skills and knowledge to one of the above Qualifications.

Employability Skills Summary

Certificate IV in Advanced Baking

The following table contains a summary of the Employability Skills as identified by the retail baking industry for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete workplace documentation and records. • Use a range of communication technologies to support work operations. • Develop work instructions, specifications and procedures. • Demonstrate effective and appropriate communication and interpersonal skills when dealing with people. • Undertake numerical calculations to determine ingredient quantities. • Communicate with all team members in a professional manner. • Demonstrate effective and appropriate documentation, communication and interpersonal skills when dealing with internal and external clients. • Use most appropriate communication method given priority, cost and audience needs. • Access, interpret and apply technical information. • Analyse data and information to determine implications for work operations.
Teamwork	<ul style="list-style-type: none"> • Work cooperatively with people of different ages, gender, race or religion. • Liaise with, and provide support to, other team members. • Demonstrate leadership skills. • Identify and manage performance required to meet internal and external customer needs in own work and team work. • Manage organisational processes and provide problem solving support to others.
Problem solving	<ul style="list-style-type: none"> • Investigate problems and determine root cause. • Identify, rectify or report potential and actual problems associated with work operations. • Identify factors which may affect the product or service to be provided. • Assess product quality and determine potential improvements. • Use ingredient and process knowledge to solve problems. • Identify safety hazards and suggest control measures. • Identify environmental hazards and implement corrective measures.

	<ul style="list-style-type: none"> • Monitor food safety practices. • Implement food safety procedures in the workplace.
Initiative and enterprise	<ul style="list-style-type: none"> • Gather and analyse feedback on products, processes and procedures. • Assess quality and other indicators of products. • Support achievement of efficient production processes. • Determine and act on situations requiring further information or problem solving.. • Assist in the implementation of continuous improvement processes • Identify opportunities for product development. • Test product ideas on the market. • Provide leadership in the workplace.
Planning and organising	<ul style="list-style-type: none"> • Identify hazards and implement appropriate hazard control measures. • Demonstrate time management skills. • Determine production scheduling requirements. • Determine suitable strategies to control production times and processes. • Source and prepare materials and resources and ensure availability to support work operations. • Schedule and sequence work to maximise safety and productivity. • Optimise work processes.
Self-management	<ul style="list-style-type: none"> • Interpret and apply relevant Acts and regulations. • Keep work area clean and tidy at all times. • Monitor own work and work of team and identify and act on any quality issues. • Manage own time to meet deadlines and production schedules. • Implement and monitor workplace procedures and instructions. • Lead by example in work practices. • Monitor own work to ensure it meets workplace environmental requirements.
Learning	<ul style="list-style-type: none"> • Implement learning activities as appropriate to ensure achievement of specified work requirements. • Be supportive and assertive and use interpersonal skills to encourage workplace learning. • Identify own training needs and seek skill development, if required. • Gather feedback to own work to assess effectiveness in meeting objectives and integrate information into own practice. • Assess work data and information to identify areas for improved performance.
Technology	<ul style="list-style-type: none"> • Use computer software applications effectively. • Work with machines and workplace technology safely and according to workplace standards.

	<ul style="list-style-type: none">• Help others use technology efficiently and safely.• Ensure readiness and operational efficiency of workplace technology.
--	---

Packaging Rules

This Qualification requires the achievement of **fourteen (14)** Units of Competency in accordance with the following rules.

Five (5) Core Units

Nine (9) Elective Units

Elective selection must include seven (7) elective Units consisting of:

- A minimum of four (4) Group A Specialist Elective Units PLUS three (3) Units from Group A, B OR C, not previously selected in this Qualification
- OR
- A minimum of four (4) Group B Specialist Elective Units PLUS three (3) Units from Group A, B OR C, not previously selected in this Qualification

Two (2) remaining elective Units may be selected from:

- Group A, B and C Units listed below, not previously selected
- Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate IV level (maximum 2 Units), Certificate III level (maximum 1 Unit) and Diploma level (maximum 1 Unit)

NOTE: Units marked with an asterisk (*) require completion of prerequisite unit/s identified under the unit.

CORE UNITS

Complete the following five (5) Units

FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOHS4002A	Maintain OHS processes
FDFPPL3002A	Report on workplace performance
FDFRB4002A	Control bakery operations to meet quality and production requirements
MSAENV472B	Implement and monitor environmentally sustainable work practices

SPECIALIST ELECTIVE UNITS

Select seven (7) Specialist Elective Units

- A minimum of four (4) Units must be selected from the specialist Group A Technical Baking stream OR Group B Bakery Business Operations stream
- The remaining Units can be selected from any Group A, B or C Units, not previously selected in this Qualification.

Group A: Technical Baking Stream

FDFRB3013A	Produce artisan breads* <i>FDFRB3005A Bake bread</i> <i>FDFRB3010A Process dough</i> <i>FDFRB3002A Produce bread dough</i>
FDFRB4003A	Apply baking science to work practices
FDFRB4004A	Produce sourdough products
FDFRB4005A	Apply advanced finishing techniques for specialty cakes and desserts* <i>FDFRB3015A Produce and decorate gateaux and tortes*</i> <i>FDFRB2002A Prepare fillings AND</i> <i>FDFRB2003A Produce meringue-based products AND</i> <i>FDFRB3001A Produce pastry AND</i> <i>FDFRB3003A Produce sponge, cake and cookie batter AND</i> <i>FDFRB3004A Decorate cakes and cookies AND</i> <i>FDFRB3006A Bake sponges, cakes and cookies AND</i> <i>FDFRB3007A Bake pastry products</i>
FDFRB4006A	Explore and apply baking techniques to develop new products
FDFRB4007A	Evaluate and assess bakery product
FDFRB4010A	Prepare plated sweets and desserts
FDFST4011A	Apply the principles of nutrition to food processing
SITHPAT004A	Prepare baking product for patisseries* <i>SITXOHS002A Follow workplace hygiene procedures</i>

Group B: Bakery Business Operations Stream

FDFRB4001A	Apply marketing principles to retail bakery
FDFRB4008A	Set up sustainable baking operations
FDFRB4009A	Coordinate material supply for baking processes* <i>FDFRB4003A Apply baking science to work practices</i>
FDFPPL4001A	Manage people in the work area*

	<i>FDFPPL3003A Support and mentor individuals and groups</i>
FDFTEC4006A	Apply an understanding of legal requirements of food production
BSBHRM402A	Recruit, select and induct staff
BSBSMB404A	Undertake small business planning
BSBSMB405B	Monitor and manage small business operations
BSBSMB406A	Manage small business finances

Group C: Bakery Electives

FDFFS2001A	Implement the food safety program and procedures
FDFFST4005A	Document processes and procedures for a food product
FDFFST4054A	Identify and implement product safety and quality for manufacturing of cereal products
FDFOP3005A	Prepare food products using basic cooking methods* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFOP3006A	Identify cultural, religious and dietary requirements for food products
FDFPPL3001A	Participate in improvement processes
FDFPPL3003A	Support and mentor individuals and groups
FDFPPL4004A	Optimise a work process* <i>FDFPPL3001A Participate in improvement processes</i>
FDFRB2002A	Prepare fillings
FDFRB2003A	Produce meringue-based products
FDFRB3001A	Produce pastry
FDFRB3002A	Produce bread dough
FDFRB3003A	Produce sponge, cake and cookie batter
FDFRB3004A	Decorate cakes and cookies
FDFRB3005A	Bake bread
FDFRB3006A	Bake sponges, cakes and cookies

FDFRB3007A	Bake pastry products
FDFRB3010A	Process dough
FDFRB3015A	Produce and decorate gateaux and tortes* <i>FDFRB2002A Prepare fillings AND</i> <i>FDFRB2003A Produce meringue-based products AND</i> <i>FDFRB3001A Produce pastry AND</i> <i>FDFRB3003A Produce sponge, cake and cookie batter AND</i> <i>FDFRB3004A Decorate cakes and cookies AND</i> <i>FDFRB3006A Bake sponges, cakes and cookies AND</i> <i>FDFRB3007A Bake pastry products</i>
FDFTEC3001A	Participate in a HACCP team* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFTEC4003A	Control food contamination and spoilage* <i>FDFFS3001A Monitor the implementation of quality and food safety programs*</i> <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFTEC4008A	Apply principles of food packaging
FDFTEC4011A	Participate in product recalls* <i>FDFFS3001A Monitor the implementation of quality and food safety programs*</i> <i>FDFFS2001A Implement the food safety program and procedures</i>
BSBCUS401B	Coordinate implementation of customer service strategies
BSBLED401A	Develop teams and individuals
BSBMGT403A	Implement continuous improvement
BSBSMB401A	Establish legal and risk management requirements of small business
BSBWOR204A	Use business technology
PMBTECH406A	Diagnose equipment problems
SITHCCC022A	Prepare chocolate and chocolate confectionery* <i>SITXOHS002A Follow workplace hygiene procedures</i>

SITHFAB012B	Prepare and serve espresso coffee
SITHFAB016A	Plan and monitor espresso coffee service* <i>SITHFAB012B Prepare and serve espresso coffee</i>
SITHOHS002A	Follow workplace hygiene procedures
SITHPAT010A	Prepare and display sugar work* <i>SITXOHS002A Follow workplace hygiene procedures</i>
TAEASS403B	Participate in assessment validation
TAEDEL301A	Provide work skill instruction

FDF41012 Certificate IV in Flour Milling

Modification History

Not applicable.

Description

The FDF41012 Certificate IV in Flour Milling targets people working in a technical leadership role in the flour milling industry. The Qualification includes technical, leadership and business skills and knowledge required to mill a wide range of flours for human consumption and ensure that operations are implemented and maintained to optimal performance. It also covers skills in monitoring the implementation of systems and procedures, and management functions of the organisation.

This Qualification applies to mill managers and senior supervisors above the shift miller level in the flour milling industry who supervise across departments and either set or participate in setting production and key performance indicators for the flour mill. It applies to flour milling operations for all types of grain including wheat, oats, barley, corn, rice, sorghum, millet, rye, and non-grain flours such as peas and arrowroot.

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Common pathways into this Qualification will include the FDF30110 Certificate III in Food Processing or FDF20110 Certificate II in Food Processing. Entry may also be from industry recognised overseas Qualifications e.g. correspondence study conducted by the National Association of British and Irish Millers (NABIM). Individuals with substantial industry experience in flour milling may also enter this Qualification. This Qualification is not suitable for school leavers.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake

- FDF50110 Diploma of Food Processing
- FDF50311 Diploma of Food Science and Technology

or any other suitable Diploma Qualification.

This Qualification is suitable for Australian Apprenticeships.

Licensing/Regulatory Information

There are no specific licences that relate to this Qualification.

Entry Requirements

Entry into this Qualification requires significant prior work experience at least at the operator level in flour milling in grain receipt, grain breaking and grain reduction processes. Preferred work experience is as a shift miller in a flour mill.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete workplace documentation and records. • Use a range of communication technologies to support work operations. • Develop work instructions, specifications and procedures. • Demonstrate effective and appropriate communication and interpersonal skills when dealing with people. • Undertake numerical calculations to determine ingredient quantities. • Communicate with all team members in a professional manner. • Demonstrate effective and appropriate documentation, communication and interpersonal skills when dealing with internal and external clients. • Use most appropriate communication method given priority, cost and audience needs. • Access, interpret and apply technical information. • Analyse data and information to determine implications for work operations.
Teamwork	<ul style="list-style-type: none"> • Work cooperatively with people of different ages, gender, race or religion. • Liaise with, and provide support to, other team members. • Demonstrate leadership skills. • Identify and manage performance required to meet internal and external customer needs in own work and team work. • Manage organisational processes and provide problem solving support to others.
Problem-solving	<ul style="list-style-type: none"> • Investigate problems and determine root cause. • Identify, rectify or report potential and actual problems associated with work operations. • Identify factors which may affect the product or service to be provided. • Assess product quality and determine potential improvements. • Use ingredient and process knowledge to solve problems. • Identify safety hazards and suggest control measures. • Identify environmental hazards and implement corrective measures. • Monitor food safety practices. • Implement food safety procedures in the workplace.

<p>Initiative and enterprise</p>	<ul style="list-style-type: none"> • Gather and analyse feedback on products, processes and procedures. • Assess quality and other indicators of products. • Support achievement of efficient production processes. • Determine and act on situations requiring further information or problem solving. • Assist in the implementation of continuous improvement processes. • Identify opportunities for product development. • Test product ideas on the market. • Provide leadership in the workplace.
<p>Planning and organising</p>	<ul style="list-style-type: none"> • Identify hazards and implement appropriate hazard control measures. • Demonstrate time management skills. • Determine production scheduling requirements. • Determine suitable strategies to control production times and processes. • Source and prepare materials and resources and ensure availability to support work operations. • Schedule and sequence work to maximise safety and productivity. • Optimise work processes.
<p>Self-management</p>	<ul style="list-style-type: none"> • Interpret and apply relevant Acts and regulations. • Keep work area clean and tidy at all times. • Monitor own work and work of team and identify and act on any quality issues. • Manage own time to meet deadlines and production schedules. • Implement and monitor workplace procedures and instructions. • Lead by example in work practices. • Monitor own work to ensure it meets workplace environmental requirements.
<p>Learning</p>	<ul style="list-style-type: none"> • Implement learning activities as appropriate to ensure achievement of specified work requirements. • Be supportive and assertive and use interpersonal skills to encourage workplace learning. • Identify own training needs and seek skill development, if required. • Gather feedback to own work to assess effectiveness in meeting objectives and integrate information into own practice. • Assess work data and information to identify areas for improved performance.

Technology	<ul style="list-style-type: none">• Use computer software applications effectively.• Work with machines and workplace technology safely and according to workplace standards.• Help others use technology efficiently and safely.• Ensure readiness and operational efficiency of workplace technology.
------------	--

Packaging Rules

Completion of twenty two (22) Units made up of ten (10) core Units and twelve (12) elective Units. Total Units must include a minimum of twelve (12) units coded FDF.

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s identified under the Unit.

Core Units of Competency

Unit code	Unit title
FDFFS2001A	Implement the food safety program and procedures
FDFFS3001A	Monitor the implementation of quality and food safety programs * <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFGR3003A	Lead flour milling shift operations
FDFGR3004A	Control mill processes and performance
FDFGR4001A	Control power and automation for milling processes
FDFGR4002A	Supervise testing processes for wheat and flour
FDFGR4003A	Manage mill logistics and support services
FDFGR4004A	Establish and supervise dust control procedures in a grain processing enterprise
FDFOHS4002A	Maintain OHS processes
MSAENV472B	Implement and monitor environmentally sustainable work practices

Elective Units of Competency

Elective selection must include a minimum of six (6) Group A specialist technical and cross sector elective Units. The six (6) remaining elective Units may be selected from:

- Group A
- Group B
- Three (3) from Units packaged at Certificate II in Food Processing
- Five (5) from Units packaged at Certificate III in Food Processing

- Two (2) from Units packaged at Diploma of Food Processing
- Four (4) Units from any nationally endorsed Training Package or accredited course that are packaged at Certificate II (up to 2 Units), Certificate III (up to 2 Units), Certificate IV (up to 4 Units), and Diploma (up to 2 Units)

GROUP A

Unit code	Unit title
BSBLED401A	Develop teams and individuals
BSBMGT402A	Implement operational plan
BSBMGT403A	Implement continuous improvement
BSBSMB407A	Manage a small team
FDFST4002A	Monitor the development and implementation of a food QA system
FDFST4003A	Apply digital technology in food processing
FDFST4005A	Document processes and procedures for a food product
FDFST4007A	Establish operational requirements for a food processing enterprise
FDFST4012A	Apply water management principles to the food industry
FDFOP3003A	Operate interrelated processes in a production system
FDFOP3004A	Operate interrelated processes in a packaging system
FDFPPL3002A	Report on workplace performance
FDFPPL3005A	Participate in audit processes
FDFPPL4001A	Manage people in the work area
FDFPPL4002A	Plan and coordinate maintenance
FDFPPL4003A	Schedule and manage production
FDFPPL4004A	Optimise a work process
FDFPPL4005A	Establish process capability
FDFPPL4006A	Manage a work area within budget
FDFPPL4007A	Manage supplier agreements and contracts

Unit code	Unit title
FDFTEC4001A	Determine handling processes for perishable food items
FDFTEC4002A	Manage controlled atmosphere storage
FDFTEC4003A	Control food contamination and spoilage
FDFTEC4004A	Apply basic process engineering principles to food processing* <i>FDFTEC4007A Describe and analyse data using mathematical principles</i> <i>FDFOP2030A Operate a process control interface</i>
FDFTEC4005A	Apply an understanding of food additives
FDFTEC4006A	Apply an understanding of legal requirements of food production
FDFTEC4007A	Describe and analyse data using mathematical principles
FDFTEC4008A	Apply principles of food packaging
FDFTEC4009A	Identify the physical and chemical properties of materials, food and related products
FDFTEC4010A	Manage water treatment processes
FDFTEC4011A	Participate in product recalls
MEM09002B	Interpret technical drawing
MEM30011A	Set up basic pneumatic circuits
MSAPMOPS400A	Optimise process/plant area* <i>MSAPMSUP390A Use structured problem solving tools</i>
MSAPMOPS401A	Trial new process or product
MSAPMOPS405A	Identify problems in fluid power system
MSAPMOPS406A	Identify problems in electronic control systems
MSS014003A	Optimise sustainability of a process or plant area
MSS014004A	Develop team strategies for more sustainable use of resources
MSS015005A	Develop required sustainability reports
MSS024003A	Apply an understanding of environmental principles to a site

Unit code	Unit title
MSS403001A	Implement competitive systems and practices
MSS403002A	Ensure process improvements are sustained
MSS403011A	Facilitate implementation of competitive systems and practices
MSS403030A	Improve cost factors in work practices
MSS403032A	Analyse manual handling processes
MSS403051A	Mistake proof an operational process
MSS404050A	Undertake process capability improvements* <i>MSS404052A Apply statistics to operational processes</i>
MSS404052A	Apply statistics to operational processes
MSS404081A	Undertake proactive maintenance analyses
MSS404082A	Assist in implementing a proactive maintenance strategy
MSS404083A	Support proactive maintenance
PMBTECH406A	Diagnose production equipment problems

Group B

Unit code	Unit title
AHCBAC204A	Prepare grain storages
BSBCUS501C	Manage quality customer service
BSBHRM402A	Recruit, select and induct staff
BSBINN301A	Promote innovation in a team environment
BSBMGT401A	Show leadership in the workplace
BSBWOR402A	Promote team effectiveness
BSBWOR403A	Manage stress in the workplace
BSBWOR404B	Develop work priorities
BSBWRT401A	Write complex documents

Unit code	Unit title
FDFGR2003A	Operate a grain conditioning process
FDFGR2004A	Operate a grain cleaning process
FDFGR2005A	Operate a purification process
FDFGR2006A	Operate a scalping and grading process
FDFGR2007A	Operate a scratch and sizing process
FDFGR2008A	Operate a break roll process
FDFGR2010A	Handle grain in a storage area
FDFOP2030A	Operate a process control interface
FDFTEC3002A	Implement the pest prevention program
MEM15001B	Perform basic statistical quality control
MSAPMSUP390A	Use structured problem solving tools
MSS402060A	Use planning software systems in operations
MSS402061A	Use SCADA systems in operations
MSS402080A	Undertake root cause analysis
MSS403005A	Facilitate use of a Balanced Scorecard for performance improvement
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
MSS403013A	Lead team culture improvement
MSS403021A	Facilitate a Just in Time system
MSS403023A	Monitor a levelled pull system of operations
MSS403040A	Facilitate and improve implementation of 5S
MSS403041A	Facilitate breakthrough improvements
MSS404052A	Apply statistics to operational processes
MSS404053A	Use six sigma techniques* <i>MSS404052A Apply statistics to operational processes</i>

Unit code	Unit title
MSS404060A	Facilitate the use of planning software systems in a work area or team
MSS404061A	Facilitate the use of SCADA systems in a team or work area
RIIRIS201B	Conduct local risk control
TLIJ2004A	Implement grain monitoring measures

FDF50110 Diploma of Food Processing

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers a range of food processing industries, such as:

- Baking (including large scale production of cakes, pastry, bread and plant baking)
- Beverages (including juices, soft drinks, cordials, aerated and still waters, energy drinks and other modified beverages, such as vitamin and antioxidant beverages, coffee, tea and ice)
- Confectionery
- Dairy processing
- Fruit and vegetables
- Grocery products and supplies (including honey, jams, spreads, sauces, dressings, condiments, spices, edible oils and fats and pasta)
- Poultry.

Job Roles This Qualification targets those in senior management, technician or similar roles within food processing industries. It provides extensive skill and knowledge of industry management functions and environment, and the ability to take responsibility for workplace systems.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF40110 Certificate IV in Food Processing
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake a relevant Advanced Diploma Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, all work must comply with food safety, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Diploma of Food Processing

The following table contains a summary of the Employability Skills as identified by the food processing related industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete a range of workplace documentation and records. • Select communication technologies to support work operations. • Develop work instructions, specifications and procedures. • Demonstrate effective and appropriate communication and interpersonal skills when dealing with people. • Communicate with all people at all levels of the organisation in a professional manner. • Select and apply documentation, communication and interpersonal strategies when dealing with internal and external clients. • Select communication methods according to priority, cost and audience needs. • Analyse and apply technical information. • Analyse data and information to determine implications for work operations.
Teamwork	<ul style="list-style-type: none"> • Lead cooperative work relations with people of different ages, gender, race or religion. • Provide leadership. • Determine performance required to meet internal and external customer needs. • Manage organisational processes and provide problem solving support to others. • Facilitate team achievements.
Problem-solving	<ul style="list-style-type: none"> • Investigate problem causes and implement corrective strategies. • Identify and address potential and actual problems associated with work operations or in achieving work outcomes. • Identify environmental features, regulations, insurance requirements, legal requirements and other factors which may affect the product or service to be provided. • Use material and process knowledge to solve problems. • Identify hazards and suggest control measures. • Analyse food safety practices.

Initiative and enterprise	<ul style="list-style-type: none"> • Determine information gathering requirements to monitor work processes and procedures. • Determine quality and other indicators of work. • Identify efficient production processes. • Determine and act on situations requiring further information or problem solving. • Implement continuous improvement processes. • Provide leadership in the workplace. • Implement business development processes.
Planning and organising	<ul style="list-style-type: none"> • Identify hazards and implement appropriate hazard control measures. • Demonstrate time management skills. • Determine resource requirements. • Determine work timelines and output targets. • Optimise work processes.. • Conduct business planning processes
Self-management	<ul style="list-style-type: none"> • Analyse implications of relevant acts and regulations on work practices. • Monitor work operations and identify and act on any quality and performance issues. • Manage own time to meet deadlines. • Determine workplace procedures and instructions. • Conduct work reviews to determine improvement requirements.
Learning	<ul style="list-style-type: none"> • Develop learning opportunities. • Be supportive, assertive and use interpersonal skills to encourage workplace learning. • Identify own training needs and seek skill development if required. • Gather feedback to own work to assess effectiveness in meeting objectives and integrate information into own practice. • Assess work data and information to identify areas for improved performance. • Maintain currency of industry skill and knowledge.
Technology	<ul style="list-style-type: none"> • Select computer software applications to perform work operations. • Work with technology safely and according to workplace standards. • Help others use technology efficiently and safely. • Ensure readiness and operational efficiency of workplace technology.

Packaging Rules

This Qualification requires the achievement of **thirty (30)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of twelve (12) Units coded FDF.

Six (6) Core Units

Twenty four (24) Elective Units

Elective selection must include:

- One (1) Group A elective Unit
- One (1) Group B elective Unit
- Eight (8) Group C elective Units and Units not previously selected from Group A and B (up to a total of 8 Units).
- Eight (8) Specialist and Cross Sector Units packaged at Group C in FDF40110 Certificate IV in Food Processing

Six (6) remaining elective Units may be selected from:

- Groups A, B, C and D elective Units listed below
- Units packaged at Certificate III or IV in Food Processing (maximum of 5)
- Units packaged at Certificate II in Food Processing (maximum of 5)
- A maximum of 5 Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate II level (maximum 2 Units), Certificate III level (maximum 2 Units), Certificate IV level (maximum 3 Units), Diploma or Advanced Diploma level (maximum 3 Units)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete the following six (6) Units.

FDFFS2001A	Implement the food safety program and procedures
FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>
FDFPPL3002A	Report on workplace performance
FDFTEC3003A	Apply raw materials, ingredient and process knowledge to production problems
FDFTEC4007A	Describe and analyse data using mathematical principles
MSAENV472B	Implement and monitor environmentally sustainable work practices

ELECTIVE UNITS**GROUP A**

Complete a minimum of one (1) Group A elective Units.

FDFOHS4001A	Identify, assess and control OHS risk in own work
FDFOHS5001A	Manage OHS processes

GROUP B

Complete a minimum of one (1) Group B elective Units

FDFOP3003A	Operate interrelated processes in a production system
FDFOP3004A	Operate interrelated processes in a packaging system

GROUP C

Select a minimum of eight (8) Group C elective Units

FDFPPL4007A	Manage supplier agreements and contracts
FDFPPL5001A	Design and maintain programs to support legal compliance* <i>FDFFS2001A Implement the food safety program and procedures</i> <i>FDFFS3001A Monitor the implementation of quality and food safety programs</i> <i>FDFOHS4002A Maintain OHS processes</i> <i>FDFTEC3001A Participate in a HACCP team</i> <i>MSAENV472B Implement and monitor environmentally sustainable work practices</i>
FDFTEC5001A	Manage and evaluate new product trials
FDFTEC5002A	Manage utilities and energy for a production process
BSBCOM502B	Evaluate and review compliance
BSBCOM503B	Develop processes for the management of breaches in compliance requirements
BSBMGT502B	Manage people performance
BSBMGT515A	Manage operational plan
BSBMGT516C	Facilitate continuous improvement
BSBPMG510A	Manage projects

MEM15001B	Perform basic statistical quality control
MSS405011A	Manage people relationships
MSS405001A	Develop competitive systems and practices for an organisation
MSS405002A	Analyse and map a value stream
MSS404052A	Apply statistics to operational processes
MSS405020A	Develop quick changeover procedures
MSS405050A	Determine and improve process capability* <i>MSS404052A Apply statistics to operational processes</i>
MSS405070A	Develop and manage sustainable energy practices
MSACMT671A	Develop and manage sustainable environmental practices

GROUP D

BSBCUS501C	Manage quality customer service
BSBFIM501A	Manage budgets and financial plans
BSBMKG501B	Identify and evaluate marketing opportunities
BSBOHS503B	Assist in the design and development of OHS participative arrangements
BSBWOR502B	Ensure team effectiveness
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices
MSS405010A	Manage relationships with non-customer external organisations
MSS405012A	Manage workplace learning
MSS405013A	Facilitate holistic culture improvement in an organisation
MSS405014A	Develop a communications strategy to support operations
MSS405005A	Manage competitive systems and practices responding to individual and unique customer orders
MSS405006A	Develop a Balanced Scorecard
MSS405007A	Introduce competitive systems and practices to a small or medium enterprise
MSS402030A	Apply cost factors to work practices
MSS402080A	Undertake root cause analysis
MSS404052A	Apply statistics to operational processes
MSS405022A	Design a process layout

MSS405023A	Develop a levelled pull system for operations and processes
MSS405030A	Optimise cost of product or service
MSS405031A	Undertake value analysis of product or process costs in terms of customer requirements
MSS405032A	Analyse cost implications of maintenance strategy
MSS405040A	Manage 5S system in an organisation
MSS405060A	Develop the application of enterprise control systems in an organisation
MSS405061A	Determine and establish information collection requirements and processes
MSS405062A	Develop a documentation control strategy for an organisation
MSS405075A	Facilitate the development of a new product* <i>MSS404052A Apply statistics to operational processes</i>
MSS405081A	Develop a proactive maintenance strategy
MSS405082A	Adapt a proactive maintenance strategy to the process operations sector* <i>MSS405081A Develop a proactive maintenance strategy</i>
MSS405083A	Adapt a proactive maintenance strategy for a seasonal or cyclical business* <i>MSS405081A Develop a proactive maintenance strategy</i>

FDF50210 Diploma of Pharmaceutical Manufacturing

Modification History

September 2012: Replacement of superseded imported Units.

November 2011: Updates to imported Units, minor edits.

Description

This Qualification covers the pharmaceutical manufacturing specialisation.

Job Roles The Diploma of Pharmaceutical Manufacturing targets those in senior management, technician or similar roles within pharmaceutical manufacturing industries. It provides extensive skills and knowledge of industry management functions and environment, and the ability to take responsibility for workplace systems.

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF40210 Certificate IV in Pharmaceutical Manufacturing
- direct entry
- relevant vocational training and/or work experience.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake a relevant Advanced Diploma Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However, an individual Unit of Competency may specify relevant licensing, legislative and/or regulatory requirements. In addition, all work must comply with Good Manufacturing Practice, occupational health and safety (OHS) and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Diploma of Pharmaceutical Manufacturing

The following table contains a summary of the Employability Skills as identified by the pharmaceutical manufacturing related industries for this Qualification. This table should be interpreted in conjunction with the detailed requirements of each Unit of Competency packaged in this Qualification. The outcomes described here are broad industry requirements that reflect skill requirements for this level.

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete a range of workplace documentation and records. • Select communication technologies to support work operations • Develop work instructions, specifications and procedures. • Demonstrate effective and appropriate communication and interpersonal skills when dealing with people. • Communicate with all people at all levels of the organisation in a professional manner. • Select and apply documentation, communication and interpersonal strategies when dealing with internal and external clients. • Select communication methods according to priority, cost and audience needs. • Analyse and apply technical information. • Analyse data and information to determine implications for work operations.
Teamwork	<ul style="list-style-type: none"> • Lead cooperative work relations with people of different ages, gender, race or religion. • Provide leadership. • Determine performance required to meet internal and external customer needs. • Manage organisational processes and provide problem solving support to others. • Facilitate team achievements.
Problem-solving	<ul style="list-style-type: none"> • Investigate problem causes and implement corrective strategies. • Identify and address potential and actual problems associated with work operations or in achieving work outcomes. • Identify environmental features, regulations, insurance requirements, legal requirements and other factors which may affect the product or service to be provided. • Use material and process knowledge to solve problems. • Identify hazards and suggest control measures. • Analyse food safety practices.
Initiative and enterprise	<ul style="list-style-type: none"> • Determine information gathering requirements to monitor work

	<p>processes and procedures.</p> <ul style="list-style-type: none"> • Determine quality and other indicators of work. • Identify efficient production processes. • Determine and act on situations requiring further information or problem solving. • Implement continuous improvement processes. • Provide leadership in the workplace. • Implement business development processes.
Planning and organising	<ul style="list-style-type: none"> • Identify hazards and implement appropriate hazard control measures. • Demonstrate time management skills. • Determine resource requirements. • Determine work timelines and output targets. • Optimise work processes. • Conduct business planning processes.
Self-management	<ul style="list-style-type: none"> • Analyse implications of relevant acts and regulations on work practices. • Monitor work operations and identify and act on any quality and performance issues. • Manage own time to meet deadlines. • Determine workplace procedures and instructions. • Conduct work reviews to determine improvement requirements.
Learning	<ul style="list-style-type: none"> • Develop learning opportunities. • Be supportive, assertive and use interpersonal skills to encourage workplace learning. • Identify own training needs and seek skill development if required. • Gather feedback to own work to assess effectiveness in meeting objectives and integrate information into own practice. • Assess work data and information to identify areas for improved performance. • Maintain currency of industry skill and knowledge.
Technology	<ul style="list-style-type: none"> • Select computer software applications to perform work operations. • Work with technology safely and according to workplace standards. • Help others use technology efficiently and safely. • Ensure readiness and operational efficiency of workplace technology.

Packaging Rules

This Qualification requires the achievement of **twenty nine (29)** Units of Competency in accordance with the following rules.

Total Units must include a minimum of eleven (11) Units coded FDF.

Nine (9) Core Units

Twenty (20) Elective Units

Elective selection must include:

- One (1) Group A elective Unit
- One (1) Group B elective Unit
- Six (6) Group C elective Units
- Five (5) Specialist and Cross Sector Units packaged at Certificate IV Group C

Seven (7) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units below, not previously selected
- Group C elective Units below, not previously selected
- Group D elective Units
- Units packaged at FDF30210 Certificate III in Pharmaceutical Manufacturing or FDF40210 Certificate IV in Pharmaceutical Manufacturing (maximum of 5)
- Units packaged at FDF20210 Certificate II in Pharmaceutical Manufacturing (maximum of 5)
- A maximum of 4 Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate II level (maximum 2 Units), Certificate III level (maximum 2 Units), Certificate IV level (maximum 3 Units), Diploma or Advanced Diploma level (maximum 3 Units)

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete the following nine (9) Units:

FDFPH4001A	Prepare and review workplace documentation to support GMP
FDFPH4002A	Facilitate and monitor Good Manufacturing Practice
FDFPH4003A	Facilitate contamination control
FDFPH4005A	Participate in validation processes
FDFPH4006A	Respond to non-conformance

FDFPH4001A	Prepare and review workplace documentation to support GMP
FDFPPL3002A	Report on workplace performance
FDFPPL4001A	Manage people in the work area
FDFTEC4007A	Describe and analyse data using mathematical principles
MSAENV472B	Implement and monitor environmentally sustainable work practices

ELECTIVE UNITS

GROUP A

Select a minimum of one (1) Group A elective Units.

FDFOHS4001A	Identify, assess and control OHS risk in own work
FDFOHS5001A	Manage OHS processes

GROUP B

Select a minimum of one (1) Group B elective Units.

FDFOP3003A	Operate inter-related processes in a production system
FDFOP3004A	Operate inter-related processes in a packaging system

GROUP C

Select a minimum of six (6) Group C elective Units.

FDFPPL4003A	Schedule and manage production
FDFPPL4007A	Manage supplier agreements and contracts
FDFPPL5001A	Design and maintain programs to support legal compliance
FDFTEC5001A	Manage and evaluate new product trials
FDFTEC5002A	Manage utilities and energy for a production process
BSBATSIM507B	Establish and maintain a strategic planning cycle

FDFPPL4003A	Schedule and manage production
BSBCOM502B	Evaluate and review compliance
BSBCOM503B	Develop processes for the management of breaches in compliance requirements
BSBMGT502B	Manage people performance
BSBMGT515A	Manage operational plan
BSBMGT516C	Facilitate continuous improvement
BSBPMG510A	Manage projects
MEM15001B	Perform basic statistical quality control
MSS405011A	Manage people relationships
MSS405001A	Develop competitive systems and practices for an organisation
MSS405020A	Develop quick changeover procedures
MSS405050A	Determine and improve process capability* <i>MSS404052A Apply statistics to operational processes</i>
MSS405070A	Develop and manage sustainable energy practices
MSACMT671A	Develop and manage sustainable environmental practices

GROUP D

BSBCUS501C	Manage quality customer service
BSBFIM501A	Manage budgets and financial plans
BSBMKG501B	Identify and evaluate marketing opportunities
BSBOHS503B	Assist in the design and development of OHS participative arrangements
BSBWOR502A	Ensure team effectiveness
MSS403010A	Facilitate change in an organisation implementing competitive systems and practices

BSBCUS501C	Manage quality customer service
MSS405010A	Manage relationships with non-customer external organisations
MSS405012A	Manage workplace learning
MSS405013A	Facilitate holistic culture improvement in an organisation
MSS405014A	Develop a communications strategy to support operations
MSS405002A	Analyse and map a value stream
MSS405006A	Develop a Balanced Scorecard
MSS405007A	Introduce competitive systems and practices to a small or medium enterprise
MSS402030A	Apply cost factors to work practices
MSS402080A	Undertake root cause analysis
MSS404052A	Apply statistics to operational processes
MSS405022A	Design a process layout
MSS405023A	Develop a levelled pull system for operations and processes
MSS405030A	Optimise cost of a product or service
MSS405031A	Undertake value analysis of product or process costs in terms of customer requirements
MSS405032A	Analyse cost implications of maintenance strategy
MSS405040A	Manage 5S system in an organisation
MSS405061A	Determine and establish information collection requirements and processes
MSS405062A	Develop a documentation control strategy for an organisation
MSS405075A	Facilitate the development of a new product* <i>MSS404052A Apply statistics to operational processes</i>

BSBCUS501C	Manage quality customer service
MSS405081A	Develop a proactive maintenance strategy
MSS405082A	Adapt a proactive maintenance strategy to the process operations sector* <i>MSS405081A Develop a proactive maintenance strategy</i>
MSS405083A	Adapt a proactive maintenance strategy for a seasonal or cyclical business* <i>MSS405081A Develop a proactive maintenance strategy</i>
MSS405060A	Develop the application of enterprise control systems in an organisation

FDF50311 Diploma of Food Science and Technology

Modification History

September 2012: Replacement of superseded imported Units.

Description

This Qualification provides a management level occupational outcome in a technical or quality role in food processing and supporting functions and covers a range of food related industries, including but not limited to:

- general food processing
- meat
- seafood
- poultry including chicken meat and egg processing
- dairy processing
- confectionery
- beverages
- baking and cereals.

Job roles This Qualification targets those working in technical and management roles covering product development, food safety and quality, food production and distribution, environmental factors and functions, and the management and review of workplace systems. The job role requires technical skills and knowledge in the science and technology that support food processing.

Job titles may include:

- food technologist
- production manager
- food testing manager
- quality systems manager
- food safety systems manager
- product development team leader
- processing systems manager
- environmental manager (food processing).

Additional Qualification advice

Units selected from other Training Packages must be relevant to the work outcome, local industry requirements and the Qualification level.

Note: AgriFood Skills Australia expects that the design of any training delivery and assessment program to support the achievement of this Qualification is based on:

- the context required by the industry and/or enterprise
- a holistic and integrated training delivery and assessment plan that identifies learning activities and evidence required
- flexible delivery options including on-the-job and work-based training that support the development of competency.

Pathways Information

Pathways into the Qualification

Pathways for candidates considering this Qualification include:

- FDF40311 Certificate IV in Food Science and Technology
- direct entry
- relevant vocational training and/or work experience.

A person who holds FDF40311 Certificate IV in Food Science and Technology will gain credit for Units already completed.

Pathways from the Qualification

After achieving this Qualification, candidates may undertake a relevant Advanced Diploma Qualification.

Licensing/Regulatory Information

There is no direct link between this Qualification and licensing, legislative and/or regulatory requirements. However all work must comply with food safety, OHS and environmental regulations and legislation that apply to the workplace.

Entry Requirements

Not applicable.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this Qualification include:
Communication	<ul style="list-style-type: none"> • Complete a range of workplace documentation and records. • Select communication technologies to support work operations. • Develop work instructions, specifications and procedures. • Demonstrate effective and appropriate communication and interpersonal skills when dealing with people. • Communicate with all people at all levels of the organisation in a professional manner. • Select and apply documentation, communication and interpersonal strategies when dealing with internal and external clients. • Select communication methods according to priority, cost and audience needs. • Analyse and apply technical information. • Prepare reports for research, marketing or process improvement processes. • Demonstrate high level presentation skills.
Teamwork	<ul style="list-style-type: none"> • Lead cooperative work relations with people of different ages, gender, race or religion. • Provide leadership. • Determine performance required to meet internal and external customer needs. • Manage organisational processes and provide problem solving support to others. • Facilitate team achievements. • Work collaboratively to research and solve technical problems and develop new processes or products.
Problem solving	<ul style="list-style-type: none"> • Investigate problem causes and implement corrective strategies. • Identify and address potential and actual problems associated with work operations or in achieving work outcomes. • Use material and process knowledge to solve problems. • Identify hazards and suggest control measures. • Analyse data and information at a technical level. • Evaluate food safety practices. • Apply technical knowledge to analyse problems and develop solutions. • Use a range of problem-solving techniques.
Initiative and enterprise	<ul style="list-style-type: none"> • Determine information gathering requirements to monitor work processes and procedures.

	<ul style="list-style-type: none"> • Determine quality and other indicators of work. • Identify efficient production processes. • Determine and act on situations requiring further information or problem solving. • Implement continuous improvement processes. • Provide leadership in the workplace. • Implement technical development processes.
Planning and organising	<ul style="list-style-type: none"> • Identify hazards and implement appropriate hazard control measures. • Demonstrate time management skills. • Determine resource requirements • Determine work timelines and output targets. • Optimise work processes. • Plan and organise the collection of data. • Plan new technical processes to integrate with production operations. • Plan the delivery of information and advice to management or workers.
Self-management	<ul style="list-style-type: none"> • Analyse implications of relevant acts and regulations on work practices. • Monitor work operations and identify and act on any quality and performance issues. • Manage own time to meet deadlines. • Determine workplace procedures and instructions. • Conduct work reviews to determine improvement requirements. • Plan individual time and resources required to investigate problems and develop and trial solutions.
Learning	<ul style="list-style-type: none"> • Develop learning opportunities. • Be supportive, assertive and use interpersonal skills to encourage workplace learning. • Identify own training needs and seek skill development if required. • Gather feedback to own work to assess effectiveness in meeting objectives and integrate information into own practice. • Assess work data and information to identify areas for improved performance. • Maintain currency of industry skill and knowledge. • Maintain technical knowledge through reading, research and professional conversations.
Technology	<ul style="list-style-type: none"> • Select and use computer software applications to support research, analysis of findings and reporting.

	<ul style="list-style-type: none">• Work with technology safely and according to workplace standards.• Help others use technology efficiently and safely.• Ensure readiness and operational efficiency of workplace technology.• Apply high level technical skills in chemical and biological analysis techniques.• Integrate technology into existing production processes.
--	--

Packaging Rules

This Qualification requires the achievement of twenty two (22) Units of Competency in accordance with the following rules.

Total Units must include a minimum of fourteen (14) Units coded FDF or MTM.

Ten (10) Core Units

Twelve (12) Elective Units

Elective selection must include:

- Five (5) elective Units from Group A
- One (1) elective Unit from Group B
- Three (3) Units from Groups A or B

Three (3) remaining elective Units may be selected from:

- Group A elective Units below, not previously selected
- Group B elective Units below, not previously selected
- A maximum of three (3) Units from any nationally endorsed Training Package and accredited course that are packaged at Certificate IV level, Diploma level or Advanced Diploma level.

NOTE: Units marked with an asterisk (*) require completion of prerequisite Unit/s which is identified under the Unit.

CORE UNITS

Complete all ten (10) core Units.

FDFFS4001A	Supervise and maintain a food safety plan
FDFFS5001A	Develop a HACCP-based food safety program* <i>FDFFS4001A Supervise and maintain a food safety plan</i>
FDFFST4004A	Perform microbiological procedures in the food industry
FDFFST5002A	Identify and implement required process control for a food processing operation
FDFFST5004A	Specify and monitor the nutritional value of processed foods
FDFFST5005A	Identify the biochemical properties of food
FDFFST5006A	Apply food microbiological techniques and analysis* <i>FDFFST4004A Perform microbiological procedures in the food industry</i>

FDFFST5030A	Develop, manage and maintain quality systems for food processing
FDFOHS4002A	Maintain OHS processes
MSAENV472B	Implement and monitor environmentally sustainable work practices

GROUP A: TECHNICAL ELECTIVES

Select a minimum of five (5) elective Units from Group A.

Scientific principles and laboratory operations

FDFFST5007A	Evaluate sampling plans in relation to food industry standards
FDFOP2015A	Apply principles of statistical process control* <i>FDFOP2061A Use numerical applications in the workplace</i>
FDFOP2061A	Use numerical applications in the workplace
FDFTEC4005A	Apply an understanding of food additives
FDFTEC4007A	Describe and analyse data using mathematical principles* <i>FDFOP2015A Apply principle of statistical process control*</i> <i>FDFOP2061A Use numerical applications in the workplace</i>
MSL973004A	Perform aseptic techniques
MSL973007A	Perform microscopic examination
MSL974004A	Perform food tests
MSL974006A	Perform biological procedures* <i>MSL973004A Perform aseptic techniques</i> <i>MSL973007A Perform microscopic examination</i>
MSL975005A	Conduct sensory analysis
MSL975022A	Perform food analyses* <i>MSL974004A Perform food tests</i> <i>OR</i> <i>MSL974006A Perform biological procedures*</i> <i>MSL973004A Perform aseptic techniques</i> <i>MSL973007A Perform microscopic examination</i>

Food quality and safety

FDFAU4002A	Communicate and negotiate to conduct food safety audits
FDFAU4003A	Conduct food safety audits
FDFAU4004A	Identify, evaluate and control food safety hazards
FDFAU4005A	Audit bivalve mollusc growing and harvesting processes* <i>FDFAU4002A Communicate and negotiate to conduct food safety audits</i> <i>FDFAU4003A Conduct food safety audits</i> <i>FDFAU4004A Identify, evaluate and control food safety hazards</i>
FDFAU4006A	Audit a cook chill process* <i>FDFAU4002A Communicate and negotiate to conduct food safety audits</i> <i>FDFAU4003A Conduct food safety audits</i> <i>FDFAU4004A Identify, evaluate and control food safety hazards</i>
FDFAU4007B	Audit a heat treatment process* <i>FDFAU4002A Communicate and negotiate to conduct food safety audits</i> <i>FDFAU4003A Conduct food safety audits</i> <i>FDFAU4004A Identify, evaluate and control food safety hazards.</i>
FDFAU4008A	Audit manufacturing of ready-to-eat meat products* <i>FDFAU4002A Communicate and negotiate to conduct food safety audits</i> <i>FDFAU4003A Conduct food safety audits</i> <i>FDFAU4004A Identify, evaluate and control food safety hazards</i>
SFIPROC504C	Design and manage a product recall

Food processing

FDFEST5001A	Monitor refrigeration and air conditioning systems in food processing
FDFEST5003A	Construct a process control chart for a food processing operation
FDFOP2030A	Operate a process control interface

FDFTEC4004A	Apply basic engineering principles to food processing* <i>FDFOP2030A Operate a process control interface</i> <i>FDFTEC4007A Describe and analyse data using mathematical principles*</i> <i>FDFOP2015A Apply principle of statistical process control*</i> <i>FDFOP2061A Use numerical applications in the workplace</i>
-------------	--

Management - technical and research

BSBRES401A	Analyse and present research information
FDFST5008A	Develop a new food product
FDFTEC5001A	Manage and evaluate new product trials
MSS403011A	Facilitate implementation of competitive systems and practices
MSS403001A	Implement competitive systems and practices

Environment

FDFST4012A	Apply water management principles to the food industry
FDFTEC5002A	Manage utilities and energy for a production process

GROUP B: INDUSTRY SPECIALISATION ELECTIVES

Select one (1) elective Unit from Group B, and
Select a minimum of three (3) elective Units from Group A and B.

Meat processing

MTMPS5603C	Develop, manage and maintain quality systems
MTMPSR5601C	Design and manage the food safety system

Dairy processing

FDFST5023A	Implement and review the processing of milk fat products
FDFST5024A	Implement and review the processing of fermented dairy products and dairy desserts
FDFST5025A	Implement and review the processing of concentrated and dried dairy products

FDFST5026A	Implement and review the processing of ice creams and frozen dairy products
FDFST5027A	Implement and review the processing of milk and related products by the membrane system

Confectionery manufacture

FDFST4030A	Implement and review the processing of chocolate and sugar-panned products
FDFST4031A	Implement and review the processing of aerated confectioneries
FDFST4032A	Implement and review the production of gums and jellies
FDFST4033A	Implement and review the production of chocolate products
FDFST4034A	Implement and review the processing of chocolate
FDFST4035A	Implement and review the processing of high and low boil confectionery
FDFST4036A	Implement and review the processing of confectionery products

Poultry industry processing

FDFST4040A	Identify and implement product safety and quality for chilled or frozen poultry product manufacturing
FDFST4041A	Identify and implement product safety and quality for cooked poultry product manufacturing
FDFST4042A	Identify and implement product safety and quality for egg based product manufacturing

Other sectors

FDFST4050A	Identify and implement product safety and quality for fruits, vegetables and other produce
FDFST4051A	Identify and implement product safety and quality processes for fish and seafood products
FDFST4052A	Implement and review the manufacturing and processing of edible fats and oils
FDFST4053A	Implement and review manufacturing, packaging and testing of

	beverage products
FDFST4054A	Identify and implement product safety and quality for manufacturing of cereal products

FDFSS00001 Cellar Door Sales Induction

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDPCD2002A	Promote wine tourism information
FDPCD2003A	Evaluate wines (standard)
FDPCD2006A	Conduct a standard product tasting
FDFOHS2001 A	Participate in OHS processes
SIRXCCS202	Interact with customers
SITHFAB009 A	Provide responsible service of alcohol

Target Group

Target Group	<p>Those working in cellar door sales roles.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p> <p>Consider implementation of the Wine Evaluation Skill Set to further induction skills.</p>
---------------------	---

Suggested words for Statement of Attainment

Suggested words for Statement of Attainment	<p>These competencies meet wine industry requirements for cellar door sales induction.</p>
--	--

Custom Content Section

Not applicable.

FDFSS00002 Cellar Hand Induction

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFCEL2019 A	Carry out transfer operations
FDFOHS2001 A	Participate in OHS processes
FDFOP2004A	Clean and sanitise equipment
FDFWIN1001 A	Identify key operations in wine production
TLID2003A	Handle dangerous goods/hazardous substances

Target Group

Target Group	<p>Induction for casual workers providing cellar operations support within a wine production enterprise.</p> <p>Where manual handling and confined space work is required, consider addition of Manual Handling Skill Set and Confined Space Skill Set.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	---

Suggested words for Statement of Attainment

Suggested words for statement of attainment	These competencies meet the wine industry requirements for cellar hand induction.
--	---

Custom Content Section

Not applicable.

FDFSS00003 Chemical Handling Certification

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

AHCCHM101 A	Follow basic chemical safety rules
AHCCHM201 A	Apply chemicals under supervision
AHCCHM303 A	Prepare and apply chemicals
AHCCHM304 A	Transport, handle and store chemicals

Target Group

Target Group	<p>Those needing to meet regulatory requirements for safe use and application of chemicals.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	---

Suggested words for Statement of Attainment

Suggested words for statement of attainment	These competencies meet the wine industry and regulatory requirements for applying chemicals.
--	---

Custom Content Section

Not applicable.

FDFSS00004 Confined Space

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

MSAPMPER2 00C	Work in accordance with an issued permit
MSAPMPER2 05C	Enter confined space
MSAPMOHS2 16A	Operate breathing apparatus
MSAPMOHS2 17A	Gas test atmospheres

Target Group

Target Group	Those needing to meet regulatory requirements for conducting work within confined spaces. Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.
---------------------	---

Suggested words for Statement of Attainment

Suggested words for statement of attainment	These competencies meet the wine industry and regulatory requirements for working in confined spaces.
--	---

Custom Content Section

Not applicable.

FDFSS00005 Distillation Operations

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFCEL2004 A	Perform single column lees stripping (continuous still brandy) operations
FDFCEL2008 A	Perform dual column distillation (continuous still brandy) operations
FDFCEL2012 A	Handle spirits
FDFCEL2019 A	Carry out transfer operations
FDFCEL3005 A	Perform rectification (continuous still) operations
FDFOP2004A	Clean and sanitise equipment
FDFOP2013A	Apply sampling procedures
MSL973001A	Perform basic tests

Target Group

Target Group	Those conducting distillation operations within a wine production enterprise. Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.
---------------------	---

Suggested words for Statement of Attainment

Suggested words for statement of attainment	These competencies meet the wine industry requirements for distillation operations.
--	---

Custom Content Section

Not applicable.

FDFSS00006 Evaporator Station Operator

Modification History

September 2012: added missing information to Skill Set Requirements.

Description

Not applicable.

Pathways Information

These units provide credit towards the FDF21011 Certificate II in Sugar Milling Industry Operations.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
FDFOP2034A	Operate an evaporation process
FDFOP2030A	Operate a process control interface
FDFSUG210A	Operate a juice clarification process
FDFSUG211A	Operate a mud filtration process
FDFSUG212A	Chemically clean equipment
FDFSUG225A	Collect and prepare samples

Target Group

Those working as evaporator station operators in sugar mills.

Suggested words for Statement of Attainment

These competencies meet the industry requirements for evaporator station operators in the Sugar Milling industry.

FDFSS00007 Food Safety

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFFS1001A	Follow work procedures to maintain food safety
FDFFS2001A	Implement the food safety program and procedures

Target Group

Target Group	<p>Those needing to meet regulatory requirements for work which involves the production of food or beverage products.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	---

Suggested words for Statement of Attainment

Suggested words for statement of attainment	These competencies from the FDF10 Version 2 Food Processing Training Package meet the wine industry and regulatory requirements for food safety.
--	--

Custom Content Section

Not applicable.

FDFSS00008 Forklift Operations

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	This unit of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations
----------------	---

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

TLID2010A	Operate a forklift
-----------	--------------------

Target Group

Target Group	Those needing to meet regulatory requirements for operating forklifts. Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.
---------------------	--

Suggested words for Statement of Attainment

Suggested words for statement of attainment	This competency meets the wine industry and regulatory requirements for forklift operations.
--	--

Custom Content Section

Not applicable.

FDFSS00009 Fugal Operator

Modification History

September 2012: added missing information to Skill Set Requirements.

Description

Not applicable.

Pathways Information

These units provide credit towards the FDF21011 Certificate II in Sugar Milling Industry Operations.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
FDFOP2030A	Operate a process control interface
FDFSUG215A	Operate a low grade fugal station
FDFSUG216A	Operate a high grade fugal station
FDFSUG225A	Collect and prepare samples

Target Group

Those working as fugal operators in sugar mills.

Suggested words for Statement of Attainment

These competencies meet the industry requirements for fugal operators in the Sugar Milling industry.

FDFSS00010 Hand Pruning Induction

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
FDFWGG2003 A	Hand prune vines

Target Group

Target Group	<p>Induction for casual workers conducting hand pruning work within a wine vineyard.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	--

Suggested words for Statement of Attainment

Suggested words for statement of attainment	These competencies from the FDF10 Version 2 Food Processing Training Package meet the wine industry requirements for hand pruning induction.
--	--

Custom Content Section

Not applicable.

FDFSS00011 Irrigation

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFWGG2004 A	Undertake irrigation systems maintenance activities
FDFWGG2011 A	Install irrigation components

Target Group

Target Group	Those installing and maintaining irrigation systems. Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.
---------------------	--

Suggested words for Statement of Attainment

Suggested words for statement of attainment	These competencies from the FDF10 Version 2 Food Processing Training Package meet the wine industry requirements for irrigation.
--	--

Custom Content Section

Not applicable.

FDFSS00012 Loco Driver

Modification History

September 2012: added missing information to Skill Set Requirements.

Description

Not applicable.

Pathways Information

These units provide credit towards the FDF21011 Certificate II in Sugar Milling Industry Operations.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
FDFSUG206A	Drive a cane locomotive

Target Group

Those working as loco drivers in sugar mills.

Suggested words for Statement of Attainment

These competencies meet the industry requirements for loco drivers in the Sugar Milling industry.

FDFSS00013 Manual Handling

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

TLID1001A	Shift materials safely using manual handling methods
TLID1002A	Shift a load using manually-operated equipment

Target Group

Target Group	<p>Those needing to meet regulatory requirements for application of manual handling procedures and use of manual handling equipment.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	--

Suggested words for Statement of Attainment

<p>Suggested words for statement of attainment</p>	<p>These competencies meet the wine industry and regulatory requirements for manual handling.</p>
---	---

Custom Content Section

Not applicable.

FDFSS00014 Mechanical Harvesting for Seasonal Workers

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations
----------------	---

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

AHCMOM202 A	Operate tractors
FDFOHS2001 A	Participate in OHS processes
FDFWGG2015 A	Support mechanical harvesting operations
FDFWGG2018 A	Operate vineyard equipment

Target Group

Target Group	<p>Induction for casual workers conducting harvesting support. Where forklift and manual handling work is required, consider addition of Forklift Operations Skill Set and Manual Handling Skill Set.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	---

Suggested words for Statement of Attainment

Suggested words for statement of attainment	<p>These competencies meet the wine industry requirements for mechanical harvesting for seasonal workers.</p>
--	---

Custom Content Section

Not applicable.

FDFSS00015 Platform Operator

Modification History

September 2012: added missing information to Skill Set Requirements.

Description

Not applicable.

Pathways Information

These units provide credit towards the FDF21011 Certificate II in Sugar Milling Industry Operations.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
FDFOP2030A	Operate a process control interface
FDFSUG209A	Operate an extraction station
FDFSUG217A	Operate a turbine
FDFSUG306A	Monitor a sugar mill powerhouse

Target Group

Those working as platform operators in sugar mills.

Suggested words for Statement of Attainment

These competencies meet the industry requirements for platform operators in the Sugar Milling industry.

FDFSS00016 Responsible Service of Alcohol

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	This unit of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

SITHFAB009 A	Provide responsible service of alcohol
-----------------	--

Target Group

Target Group	Those needing to meet regulatory requirements for serving alcohol. Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements and contextualise the application accordingly.
---------------------	--

Suggested words for Statement of Attainment

Suggested words for statement of attainment	This competency meets the wine industry and regulatory requirements for serving alcohol.
--	--

Custom Content Section

Not applicable.

FDFSS00017 Risk Management

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFFS2001A	Implement the food safety program and procedures
FDFOHS2001 A	Participate in OHS processes
FDFWIN2002 A	Identify and control risks in own work
MSAENV272 B	Participate in environmentally sustainable work practices
MSS402051A	Apply quality standards

Target Group

Target Group	<p>Those applying basic risk management skills across safety (food and health), quality and environmental areas.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	--

Suggested words for Statement of Attainment

Suggested words for statement of attainment	<p>These competencies meet the wine industry requirements for risk management.</p>
--	--

Custom Content Section

Not applicable.

FDFSS00018 Seasonal Nursery Induction

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
FDFWGG2010 A	Field graft vines

Target Group

Target Group	<p>Induction for casual workers conducting seasonal grafting work within a wine vineyard/nursery.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	---

Suggested words for Statement of Attainment

Suggested words for statement of attainment	These competencies from the FDF10 Version 2 Food Processing Training Package meet the wine industry requirements for seasonal nursery induction.
--	--

Custom Content Section

Not applicable.

FDFSS00019 Sugar Boiler

Modification History

September 2012: added missing information to Skill Set Requirements.

Description

Not applicable.

Pathways Information

These units provide credit towards the FDF21011 Certificate II in Sugar Milling Industry Operations.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
FDFOP2030A	Operate a process control interface
FDFSUG212A	Chemically clean equipment
FDFSUG213A	Operate a pans station
FDFSUG216A	Operate a crystalliser station process
FDFSUG225A	Collect and prepare samples

Target Group

Those working as boiler operators in sugar mills.

Suggested words for Statement of Attainment

These competencies meet the industry requirements for sugar boilers in the Sugar Milling industry.

FDFSS00020 Trellis Management

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

AHCMOM202 A	Operate tractors
FDFOHS2001 A	Participate in OHS processes
FDFWGG2016 A	Install and maintain vine trellis

Target Group

Target Group	Those conducting trellis installation and maintenance. Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.
---------------------	--

Suggested words for Statement of Attainment

Suggested words for statement of attainment

These competencies meet the wine industry requirements for trellis management.

Custom Content Section

Not applicable.

FDFSS00021 Vintage Laboratory Operations

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
MSL912001A	Work within a laboratory_field workplace (induction)
MSL922001A	Record and present data
MSL943002A	Participate in laboratory_field workplace safety
MSL952001A	Collect routine site samples

Target Group

Target Group	<p>Casual workers employed in vintage laboratory roles within a wine production enterprise.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	---

Suggested words for Statement of Attainment

Suggested words for Statement of Attainment	<p>These competencies meet the wine industry requirements for vintage laboratory operations.</p>
--	--

Custom Content Section

Not applicable.

FDFSS00022 Warehouse Induction

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
TLIA2012A	Pick and process orders

Target Group

Target Group	<p>Induction for new warehouse operators within a wine production enterprise.</p> <p>Where forklift and manual handling work is required, consider addition of Forklift Operations Skill Set and Manual Handling Skill Set.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p>
---------------------	---

Suggested words for Statement of Attainment

<p>Suggested words for statement of attainment</p>	<p>These competencies meet the wine industry requirements for warehouse induction.</p>
---	--

Custom Content Section

Not applicable.

FDFSS00023 Water Tender

Modification History

September 2012: added missing information to Skill Set Requirements.

Description

Not applicable.

Pathways Information

These units provide credit towards the FDF21011 Certificate II in Sugar Milling Industry Operations.

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFOHS2001 A	Participate in OHS processes
FDFOP2030A	Operate a process control interface
FDFSUG217A	Operate a turbine
FDFSUG219A	Operate a bagasse fuel supply system
FDFSUG305A	Operate a boiler - advanced

Target Group

Those working as water tender operators in sugar mills.

Suggested words for Statement of Attainment

These competencies meet the industry requirements for water tenders in the Sugar Milling industry.

FDFSS00024 Wine Evaluation

Modification History

September 2012: added missing information to Skill Set Requirements.

April 2012: minor clarification in Suggested words for Statement of Attainment.

Description

Not applicable.

Pathways Information

Pathway	These units of competency may provide credit towards FDF20411 Certificate II in Wine Industry Operations and FDF30411 Certificate III in Wine Industry Operations.
----------------	--

Licensing/Regulatory Information

Not applicable.

Skill Set Requirements

FDFCD2003A	Evaluate wines (standard)
FDFCD3001A	Evaluate wines (advanced)

Target Group

Target Group	<p>Those working in cellar door sales and wine industry roles where an understanding of wine products is required.</p> <p>Readers should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements.</p> <p>When serving of wine is involved, consider addition of Responsible Service of Alcohol Skill Set.</p>
---------------------	--

Suggested words for Statement of Attainment

Suggested words for Statement of Attainment	These competencies from the FDF10 Version 2 Food Processing Training Package meet the wine industry requirements for wine evaluation.
--	---

Custom Content Section

Not applicable.

FDFAU4001A Assess compliance with food safety programs

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers skills and knowledge required to assess compliance against an approved food safety program where the program is supported by a prescriptive template or tool or where compliance is checked against a food safety program that has been validated by a technical expert.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to regulatory, commercial or internal auditors.</p> <p>When this unit is applied to regulatory auditing it should be noted that the National Food Safety Audit Policy for regulatory auditing requires that the unit FDFAU4002A Communicate and negotiate to conduct food safety audits, must be pre or co-assessed with this unit when applied to assessing compliance against approved food safety programs that have been validated by a technical expert.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan the audit	1.1. An audit plan is developed to meet the audit scope 1.2. The plan is capable of delivering the required outcomes within resource and time allocations 1.3. Plan includes audit purpose, scope and relevant templates or approved food safety program 1.4. Activities and responsibilities for the audit are identified 1.5. Audit timing (as required by legislation and/or client) is identified including timetable for each stage of the audit 1.6. Resource, personnel and reporting requirements are identified 1.7. Follow up and completion procedures are identified 1.8. Communication protocols are identified and established to facilitate the effective exchange of information and suited to the auditee environment
2. Confirm that the food business has documented required preliminary work	2.1. The food and the method of distribution are defined 2.2. Customers and intended use of food is identified 2.3. The process is described and documented 2.4. The food business has checked their documentation for accuracy and completeness
3. Confirm the food safety program is supported by a tool or template or has been validated	3.1. The documented food safety program and related procedures and prerequisite programs are assessed to confirm that they have a prescriptive tool or have been validated by a technical expert 3.2. The food business method of identifying and analysing food safety hazards is reviewed 3.3. Templates or the approved food safety program are correctly selected to meet audit scope 3.4. Templates or the approved food safety program are appropriately adapted to suit the needs of the business without adversely affecting food safety 3.5. Documented verification records are reviewed to confirm that the requirements of the food safety program are being met 3.6. Corrective actions required where processes are identified as not meeting targets or critical limits are assessed to confirm they meet the requirements of the template or food safety program 3.7. Food safety prerequisite programs are assessed to

ELEMENT	PERFORMANCE CRITERIA
	<p>confirm they are appropriate for the food business/industry sector to maintain a safe food environment</p> <p>3.8. Food safety program documents are reviewed to confirm currency, accuracy and adequacy to facilitate maintenance of an adequate food safety program</p>
<p>4. Collect evidence to review and assess implementation of food safety programs</p>	<p>4.1. Evidence is collected to confirm that documented programs and procedures are working effectively, reflect actual practice and are consistently applied</p> <p>4.2. Evidence is collected to confirm that food safety monitoring and corrective actions are carried out according to procedure</p> <p>4.3. Evidence is collected to confirm that safety prerequisite programs are effective and consistently followed</p> <p>4.4. Evidence is collected to confirm that food safety records are completed and provide an accurate record of events</p> <p>4.5. Evidence is collected to confirm that records are accessed and analysed to confirm effective program maintenance in accordance with the template or food safety program</p> <p>4.6. Evidence is collected to confirm that food safety skills and knowledge of food business personnel is commensurate with their work role</p> <p>4.7. Evidence is collected to confirm that the food safety program has been internally monitored and assessed, updated and improved by a technical expert</p>
<p>5. Manage the audit process</p>	<p>5.1. Audit progress is monitored against the audit plan and any variation to plan is identified and addressed</p> <p>5.2. Circumstances requiring the audit plan to be adjusted are identified and negotiated in a timely manner</p> <p>5.3. Audits address audit scope and are conducted within time and resource constraints to meet quality and professional standards</p> <p>5.4. The audit process is reviewed to identify opportunities for improvement</p>
<p>6. Consolidate audit outcomes</p>	<p>6.1. Audit evidence is analysed and assessed to identify any areas of non-compliance with legislation and/or the food safety program</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>6.2. Non-conformities are identified and classified as agreed by the audit plan</p> <p>6.3. Non-conformities are reported in accordance with agreed client and/or legislative requirements</p> <p>6.4. Audit reports and/or certificates are prepared and submitted or presented as required to meet regulatory and client requirements</p> <p>6.5. A corrective action implementation plan defining proposed actions and timelines developed by the auditee is reviewed by the auditor to confirm that template or food safety program requirements are met</p> <p>6.6. Audit findings are reviewed to confirm that evidence is sufficient as defined by the template or approved food safety program</p>
7. Confirm and close out corrective actions	<p>7.1. Implementation and effectiveness of corrective action is monitored and verified against the template or the approved food safety program</p> <p>7.2. Audit records are maintained to record corrective actions</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- plan and organise audit activities
- identify work processes and work flow
- interpret food safety programs including flow charts, standard operating procedures (SOPs), and other process documentation
- describe each process step and identify food safety hazards
- conduct research to identify, collect and analyse evidence of compliance with food safety programs
- use communication skills to support evidence collection and outcome presentation
- identify and classify non-compliances
- prepare audit reports and certificates to meet regulatory and client requirements
- review corrective action implementation plans
- monitor the implementation of corrective actions
- maintain audit records

Required knowledge

Knowledge of:

- required content and scope of food safety programs as defined in the National Food Safety Standard 3.2.1 or other relevant standards
- purpose and minimum requirements of risk-based approaches to managing food safety hazards, including the role of prescriptive templates or approved food safety programs in supporting a risk-based approach and the process used to validate these tools
- guidelines on implementing industry templates or approved food safety programs
- legal requirements of food businesses
- legal liability of auditors and protection against litigation and professional practice issues, including the circumstances under which an auditor could be prosecuted and insurance requirements
- audit activities and principles, including guidelines on audit stages and activities as outlined in ISO 19011:2002
- personal attributes required of food safety auditors, including those outlined in ISO 19011:2002, and additional system owner requirements where required
- role, responsibilities and powers of enforcement agencies, authorised officers and commercial auditors, including reporting responsibilities, legal liability of auditors and delegation of authority to commercial auditors as may apply in some states and territories

REQUIRED SKILLS AND KNOWLEDGE

- information handling and management system protocols, including issues, such as rights of access to information, maintenance of confidentiality of audit information and reports and information dissemination requirements
- evidence appropriate for use in audit processes, including the difference between objective and hearsay evidence and methods for recording and managing evidence to provide reliable reference information in the event that evidence is challenged
- vocabulary and terms relating to food safety programs, including terms and jargon to describe technical processes, industry standards and common biological and chemical terms
- common biological, physical and chemical hazards that may occur in the food business and appropriate methods of control and critical limits as outlined in the approved food safety program or template
- the impact of (1) the design and construction of premises and (2) the selection, application and condition of equipment, on food safety as defined in Food Safety Standard 3.2.3
- role of prerequisite programs in controlling hazards, including the relationship between prerequisite programs and risk-based approaches, such as HACCP to controlling food safety hazards
- circumstances, implications and responsibilities in the event that the auditee requests that the audit ceases
- circumstances and authority to initiate cessation of an audit
- methods to assess skill requirements and options to confirm that the responsible personnel within the food business have the of food safety and food hygiene relevant to the food business

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competence in this unit must be able to assess compliance against an approved food safety program where the program is supported by a prescriptive template or tool or where compliance is checked against a food safety program that has been validated by a technical expert.

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- confirm that the food safety program and/or template is appropriate to the activities of the business
- review food safety program records to assess compliance against the approved food safety program and/or template
- collect and analyse evidence to confirm that the food safety program is consistently followed and controls all critical risks
- identify circumstances where variation or customising of the template or food safety program requires further validation
- submit non-compliance reports to clearly identify the aspects of the food safety program that have broken down/need further development in order to prevent recurrence.

Context of and specific resources for assessment

Competency may be assessed in an actual workplace or simulated environment that provides access to the required resources. At least one of the scenarios should be assessed in an actual workplace context.

Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.

The following resources must be available:

- food safety plans

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • food safety-related documentation required to implement and record the food safety plan • evidence and documentation relevant to processes that would typically be used to assess compliance with the food safety program • plant and equipment that would typically be used in a commercial manufacturing business.
Method of assessment	<p>Assessment methods must satisfy the endorsed Assessment Guidelines of FDF10 Food Processing Industry Training Package. The following assessment methods should be considered to gather sufficient and valid evidence of competency:</p> <ul style="list-style-type: none"> • observation and a report covering the critical aspects for assessment identified above • questioning to test the level and application of knowledge • workplace example or scenario to allow a valid decision on the compliance of the food safety program to be made, with evidence of recording and feedback.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Food safety program	<p>Food safety programs include both prerequisite programs and a risk-based analysis of food safety hazards to determine required control measures to eliminate, prevent or reduce hazards.</p> <p>Minimum legal requirements for food safety programs are specified in National Food Safety Standard 3.2.1 or other relevant legislative requirements.</p> <p>The food safety program may be based on a template or externally developed program that is adapted to the needs of the business</p>
Licensing/certification requirements	<p>Licensing and certification requirements are determined by system owners</p>
Technical expert	<p>The requirements of a technical expert are determined by the system owner. System owners may include:</p> <ul style="list-style-type: none"> • government regulators as well as private system owners
Audit scope	<p>The scope describes the purpose, extent and boundaries of the audit. This may include:</p> <ul style="list-style-type: none"> • physical locations • products • processes • time period covered by the audit • extent of authority of the auditor
Prerequisite programs	<p>Prerequisite programs are also referred to as support programs, such as Good Manufacturing Practice (GMP), Good Agricultural Practice (GAP) and Good Hygiene Practice (GHP)</p> <p>Prerequisite programs can be divided into two categories.</p>

RANGE STATEMENT

	<p>Infrastructure and maintenance programs. These may include:</p> <ul style="list-style-type: none"> • layout, design and construction of buildings and facilities • supplies of air, water energy and other utilities • equipment, including preventative maintenance, sanitary design and accessibility for maintenance and cleaning • support services, including waste and sewage disposal <p>Operational prerequisite programs. These may include:</p> <ul style="list-style-type: none"> • personal hygiene • cleaning and sanitation • pest control • measures for the prevention of cross-contamination • packaging and labelling procedures • supplier assurance • chemical storage • employee training • maintenance • calibration • document control • internal audit programs • traceability and recall programs • on-farm food safety schemes • inspecting and testing regimes, including analytical and microbiological testing
Legal requirements	<p>The scope of the audit determines and may be determined by food safety legislation which may include:</p> <ul style="list-style-type: none"> • Food Standards Code • relevant state and territory legislation and related codes of practice, including industry sector-specific legislation and related codes of practice, such as that relating to meat, seafood, dairy and primary production and processing • regulatory and commercial requirements

RANGE STATEMENT	
	<p>relevant to importing countries</p> <ul style="list-style-type: none"> • Commonwealth legislation (e.g. Export Control Act) <p>Other legislation which may impact on the conduct of a food safety auditor may include legislation covering:</p> <ul style="list-style-type: none"> • occupational health and safety (OHS), anti-harassment, anti-discrimination and industrial relations • trade practices legislation • environmental risk management • legal contracts or agreements
Food businesses	A food business refers to a business, enterprise or activity where food is produced, processed, stored, displayed and/or sold. It may also include primary producers
Food safety program documents	<p>Food safety program documents may include:</p> <ul style="list-style-type: none"> • documented statements of food safety policy and objectives • documented procedures and records • documented complaints register • documents and records to ensure the effective development, implementation and updating of the food safety program
Risk-based approaches	Risk-based approaches to controlling food safety are typically based on HACCP, described in the Codex Alimentarius guidelines

Unit Sector(s)

Unit sector	Food safety auditing
--------------------	----------------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFAU4002A Communicate and negotiate to conduct food safety audits

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the interpersonal skills and knowledge required to select and use appropriate methods of communication and negotiation to support audit processes.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to regulatory, commercial or internal auditors.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Develop a communication plan to support audit processes</p>	<p>1.1. Roles and responsibilities of the auditee are defined and agreed by both parties to address the audit scope</p> <p>1.2. Roles and responsibilities of all personnel involved in the audit process are defined, communicated and agreed</p> <p>1.3. Appropriate communication methods and protocols are determined and specific arrangements, including reporting requirements, are agreed</p> <p>1.4. A communication plan is developed to identify the communication requirements and responsibilities of personnel involved in the audit process</p>
<p>2. Select and use appropriate communication methods to conduct an audit</p>	<p>2.1. Appropriate communication methods are used to establish and maintain effective client relationships, collect audit evidence, provide and present information, facilitate meeting processes, facilitate issue management and conflict resolution and communicate audit findings</p> <p>2.2. Communication methods are selected to take account of system owner and food business requirements, workplace culture and individual differences</p> <p>2.3. Information provided by the auditee is interpreted in the context of the industry sector, language and culture of the business</p>
<p>3. Negotiate to achieve agreement on audit outcomes</p>	<p>3.1. Areas of disagreement over audit outcomes are identified and clarified with the auditee</p> <p>3.2. Understanding is sought on actions to be followed to resolve outstanding issues</p> <p>3.3. Communication techniques are applied to encourage all relevant parties to participate and express their views fully</p> <p>3.4. Auditee views are treated with respect</p> <p>3.5. Options for resolving differences are explored to reach agreement and meet audit timeline and resource parameters</p> <p>3.6. Appropriate issue resolution strategies are explored to increase the likelihood of agreement on steps required to conclude the audit</p> <p>3.7. The negotiation process is managed to maintain constructive client relationships</p> <p>3.8. Any areas of continuing non-compliance that result</p>

ELEMENT	PERFORMANCE CRITERIA
	from unresolved differences are reported to system owners and appropriate authorities as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- select, design and use appropriate communication methods and techniques to support the audit process and the needs of the audience
- apply strategies to communicate with people at different levels of the food business with different English language, literacy and technical skill levels
- facilitate groups to resolve sensitive and/or conflict-based issues
- structure and present written and verbal information that is thorough, legible, clear, accurate and appropriate to the purpose and the audience
- use information systems, technologies and software to manage security, authorisation and distribution of audit data and records
- communicate information in environments where the recipients may be hostile to the information being presented
- apply issue resolution strategies

Required knowledge

Knowledge of:

- legislation that impacts on acceptable communication methods and conduct, including anti-discrimination, anti-harassment and privacy legislation
- vocabulary and terms relevant to audit process, including terms and jargon to describe food safety legislation, technical processes and industry standards
- confidentiality needs and expectations of food businesses
- strategies to communicate in culturally diverse environments
- dynamics of conflict and strategies to manage resolution
- the structure, authority levels and lines of reporting within a food business
- communication methods relevant to different groups and audiences
- reporting formats and requirements to meet client and legislative needs

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competence in this unit must be able to select and use appropriate methods of communication and negotiation to support audit processes. This unit should be assessed together with other food safety auditing units.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • design a communication plan to meet the needs of stakeholders in an audit process, specifically where a number of participants have limited English language and literacy skills • facilitate and negotiate to seek understanding of audit outcomes in a conflict-based situation where the outcomes are contested by the auditee. This component of assessment must provide opportunities to select and apply appropriate communication methods.
<p>Context of and specific resources for assessment</p>	<p>Competency may be assessed in an actual workplace or simulated environment where the simulated context provides access to audit findings which are disputed by the auditee. At least one of the audit scenarios should be assessed in an actual workplace context. A simulated environment must provide access to a typical range of personnel with communication skill levels appropriate to food businesses and to the roles of personnel involved in food safety audit processes.</p>
<p>Method of assessment</p>	<p>The following assessment methods should be considered to gather sufficient and valid evidence of competency:</p> <ul style="list-style-type: none"> • observation of communication and conflict management skills • a report for a communication plan to conduct a food safety audit

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • questioning to test the level and application of knowledge • a journal or report on communication strategies used in conducting a food safety audit. <p>Assessment methods must satisfy the endorsed Assessment Guidelines of FDF10 Food Processing Industry Training Package.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Licensing/certification requirements	<p>This unit is part of a set of units that are a minimum requirement for auditors of food safety programs</p>
Communication plan	<p>A communication plan identifies:</p> <ul style="list-style-type: none"> • the type and purpose of information to be provided through each stage of the audit process • audiences for types of information • the form or method of communication (e.g. written report, verbal presentation) • when/how often the communication will occur reporting procedures and responsibilities, including reporting timelines, formats and procedure for reporting serious/critical food safety hazards
Communication methods and protocols	<p>Methods of communication may include:</p> <ul style="list-style-type: none"> • written presentations and reports • two-way verbal interaction • constructive feedback • active listening • questioning to elicit, confirm and clarify information • interview techniques • facilitation of meetings and group processes • interpreting non-verbal skills and body language <p>Communication protocols may include:</p> <ul style="list-style-type: none"> • confidentiality • objectivity • information access and dissemination • levels of communication/lines or reporting • timeliness of providing

RANGE STATEMENT	
	information/responding to information requests
Food business requirements	<p>Business requirements may require that communication is consistent with:</p> <ul style="list-style-type: none"> • confidentiality requirements • legal requirements and related policies and procedures relating to communication requirements • professional codes of conduct/personal attributes of auditors • information that is accurate, thorough and clearly presented • resource parameters • organisational structure and delegated levels of authority • existing communication mechanisms and systems used in the auditee's workplace
Individual differences	<p>Individual differences may include but are not limited to:</p> <ul style="list-style-type: none"> • age • race • gender • culture • religion • impairment/disability • physical features • educational background • technical skill level • communication styles and skill levels • English language and literacy • any other individual characteristics that may need to be taken into account in designing communication as covered by relevant legislation
Issue resolution strategies	<p>Issue resolution strategies may include:</p> <ul style="list-style-type: none"> • establishing open communication practices to encourage the trust and engagement of all parties • designing processes that ensure all parties have opportunities to fully express their

RANGE STATEMENT

	position <ul style="list-style-type: none"> • involving personnel with additional expertise (this may include other expertise from the auditing body and/or the regulator) • validating evidence used to support audit findings
--	---

Unit Sector(s)

Unit sector	Food safety auditing
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFAU4003A Conduct food safety audits

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to verify and confirm validation of food safety programs in the context of food safety legislation and client requirements.
------------------------	--

Application of the Unit

Application of the unit	<p>At the time of writing the terms and definitions relating to the audit process were consistent with and further described in the international standard ISO/IEC 19011:2002, 'Guidelines on quality and/or environmental management systems auditing'.</p> <p>Users of this unit should refer to the current ISO standard and current food safety legislation.</p> <p>This unit applies to conducting on-site audits and is relevant to regulatory and commercial food safety system auditors who may be auditing low, medium or high risk food safety hazards. When this unit is applied to regulatory auditing it should be noted that the National Food Safety Audit Policy for regulatory auditing, requires that this unit must be pre or co-assessed with:</p> <ul style="list-style-type: none"> • FDFAU4002A Communicate and negotiate to conduct food safety audits • FDFAU4004A Identify, evaluate and control food safety hazards. <p>When applied to conducting regulatory food safety audits of high risk food businesses or processes, additional units relevant to the specified business or process may be required to meet the National Food Safety Audit Policy.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Define the scope of the audit	<p>1.1. Audit scope is identified and defines the extent of the audit to meet legislative and audit client requirements</p> <p>1.2. Audit criteria meet legislative and client requirements</p> <p>1.3. The definition and levels of non-conformity and related reporting responsibilities are identified consistent with legislative requirements and client requirements</p> <p>1.4. Evidence required to address audit scope and criteria is identified and appropriate collection methods are selected</p> <p>1.5. Food safety management system documents are reviewed to determine adequacy for the purposes of the audit</p>
2. Plan the audit	<p>2.1. An audit plan is developed that includes definitions and levels of non-conformity to meet the audit scope</p> <p>2.2. Activities and responsibilities for the audit are identified</p> <p>2.3. Audit timing (as required by legislation and/or client) is identified, including timetable for each stage of the audit</p> <p>2.4. Resource, personnel and reporting requirements are identified</p> <p>2.5. Follow up and completion procedures are identified</p> <p>2.6. Communication protocols are established to facilitate the effective exchange of information and suited to the auditee environment</p>
3. Conduct the audit	<p>3.1. Information on the audit scope and methodology is communicated in an effective and timely manner</p> <p>3.2. Stages and activities of the audit process are followed</p> <p>3.3. Methods used by the food business to carry out preliminary work, identify food safety hazards and assess level of risk are reviewed to confirm that they are appropriate and correctly applied</p> <p>3.4. Evidence used by the food business to support identification of control measures and establish control limits is identified and evaluated to determine adequacy and relevance</p> <p>3.5. Methods used by the food business to control</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>hazards and determine corrective action where processes are identified as not meeting targets or critical limits are reviewed to confirm they are adequate, effective and appropriate</p> <p>3.6.Evidence is collected to confirm that the documented food safety policies and procedures are working effectively, reflect actual practice and are consistently applied</p>
4. Manage the audit process	<p>4.1.Audit progress is monitored against the audit plan and any variation to plan is identified and addressed</p> <p>4.2.Circumstances requiring the audit plan to be adjusted are identified and negotiated in a timely manner</p> <p>4.3.Audits address audit scope and are conducted within time and resource constraints to meet quality and professional standards</p> <p>4.4.The audit process is reviewed to identify opportunities for improvement</p>
5. Consolidate audit outcomes	<p>5.1.Evidence is analysed and assessed to identify any areas of non-compliance with legislation and/or client requirements as appropriate to the audit scope</p> <p>5.2.Non-conformities are identified and classified as agreed by the audit plan</p> <p>5.3.Non-conformities are reported in accordance with agreed client and/or legislative requirements</p> <p>5.4.Audit findings are communicated to the auditee</p> <p>5.5.Audit reports and/or certificates are prepared and submitted or presented as required to meet regulatory and client requirements</p> <p>5.6.Corrective actions proposed by the auditee in response to non-conformances are reviewed for compliance with the template or food safety program</p> <p>5.7.Audit findings are reviewed to confirm that evidence is appropriate and sufficient and findings are accurate</p> <p>5.8.The food safety management system is reviewed to identify areas of potential improvement of the system according to audit scope</p>
6. Confirm and close out corrective actions	<p>6.1.Implementation and effectiveness of corrective actions are monitored and verified and any variation to the food safety plan is identified and addressed</p> <p>6.2.Audit records are maintained to record corrective</p>

ELEMENT	PERFORMANCE CRITERIA
	actions

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- locate relevant commonwealth, state and/or territory legislation, regulations and related codes of practice and determine the legal responsibilities of food businesses relevant to the industry sector
- plan and manage audit activities
- communicate information in ways appropriate to the purpose and the audience and to facilitate opening and closing meetings
- negotiate and facilitate audit processes, including following meeting procedures and resolving issues
- select and use research skills relevant to audit activities, including researching technical sources to validate food safety programs and collecting evidence to support verification
- consolidate audit findings based on objective evidence
- prepare records and reports appropriate to the purpose of the audit and the needs of the auditee and the client (system owner/regulator)

Required knowledge

Knowledge of:

Auditor roles and responsibilities

- audit activities and stages, including guidelines on audit stages and activities as outlined in ISO 19011:2002
- personal attributes required of food safety auditors, including those outlined in ISO 19011:2002, and additional client requirements where required
- role, responsibilities and powers of enforcement agencies, authorised officers and commercial auditors, including reporting responsibilities, legal liability of auditors and delegation of authority to commercial auditors as may apply in some states and territories
- relevant competencies and certification/registration criteria and processes applying to both regulatory and commercial auditors
- audit management to develop and implement an audit against an agreed plan, including the scope/level of authority to revise the resource and allocate time allocations to take account of variation to plan

Food safety management systems

- purpose and intent of each element of a food safety management system
- the underlying principles of risk-based approaches to controlling food safety hazards, including HACCP as described in the Codex Alimentarius Guidelines

REQUIRED SKILLS AND KNOWLEDGE

- vocabulary and terms relating to food safety, including terms and jargon to describe technical processes, industry standards and common biological and chemical terms
- food safety management system knowledge relevant to the system being audited., including system requirements, definitions and levels of non-compliance and related reporting responsibilities as defined by legal and management system requirements
- the interaction between different types of management systems, including the impact of food safety decisions on other management systems, such as occupational health and safety (OHS), quality, environmental risk management and animal welfare
- technical knowledge required to assess the adequacy of the food safety management system performance and corrective actions
- role of prerequisite programs in controlling hazards, including the relationship between prerequisite programs and risk-based approaches, such as HACCP to controlling food safety hazards
- information handling and management system protocols, including issues, such as rights of access to information, maintenance of confidentiality of audit information and reports and information dissemination requirements

Food safety legislation

- the purpose and intent of food safety legislation, including sources of information on importing country requirements and of requirements of countries and retailer driven systems in importing markets
- the content covered by the Food Standards Code and/or other relevant standards
- the structure and responsibilities of commonwealth, state and territory government departments and local government to manage and implement food safety legislation, including where to find information on relevant commonwealth, state/territory legislative requirements, product or industry sector legislation and regulations and import and export market requirements
- the regulatory framework and specific legislation relevant to the audit, including relevant risk profiling or classification systems where they apply
- sources of information on legislation and codes governing primary production and primary processing
- requirements for scheduling and conducting further auditing as determined by food safety legislation and/or client system requirements
- legal liability of auditors and protection against litigation and professional practice issues, including the circumstances under which an auditor could be prosecuted and insurance requirements
- the role of auditors when called on to provide evidence as a witness in court

Food safety audit processes

- preliminary work required to identify food to be covered by the food safety program, define the food and the method of distribution, identify customers and intended use of food, describe the process (flowchart) and check accuracy and

REQUIRED SKILLS AND KNOWLEDGE

completeness

- methods used identify food safety hazards and assess food safety hazard risk levels taking account of severity and likelihood of occurrence
- methods used to identify critical control points and establish critical limits, suited to the nature of the hazard, the requirements of the audit and the industry sector
- methods used to validate control techniques and critical limits, including industry or sector codes of practice, technical standards and research
- types of evidence, including the difference between objective and hearsay evidence and methods for recording and managing evidence to provide reliable reference information in the event that evidence is challenged
- evidence collection methods, including record sampling and sample analysis, and the evidence collection options relevant to a given audit situation, the reliability of each collection method and the range/extent of evidence collection methods required to ensure that audit outcomes are objective, consistent, fair and reliable
- methods to assess skill requirements and options to confirm that the responsible personnel within the food business have the required skills and knowledge of food safety and food hygiene relevant to the food business
- circumstances, implications and responsibilities in the event that the auditee requests that the audit ceases
- circumstances and authority of an auditor to initiate cessation of an audit
- understanding of the context in which audits are conducted, including workplace culture and preferred communication methods, industry, process and/or product knowledge and related jargon
- information recording requirements and audit reporting requirements

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competence in this unit must be able to verify and confirm validation of food safety programs in the context of food safety legislation and client requirements.

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the ability to:

- Identify food safety legislation applying to a food business. Legislative requirements may relate to actual or hypothetical food businesses. A minimum of two scenarios must be covered providing that at least one food business operates in a market segment that has to meet compliance requirements in place of or in addition to the Food Standards Code. One such market segment is export meat processors who must comply with the Export Control Act and the Export Meat Orders.
- The assessment activity must:
 - identify the relevant legislation applying to the food business taking account of the industry sector, range of food handling activities undertaken and the markets into which products and/or services are sold.
 - locate advice on relevant authorities and enforcement agencies in a state or territory and for international markets as appropriate.
 - explain the legal responsibilities of a given food business.
- Plan and conduct an audit that complies with legal and client requirements as appropriate. The criteria and evidence requirements may be developed to apply to an actual or hypothetical food business. The assessee must substantiate:
 - how audit scope and criteria meet legislative and

EVIDENCE GUIDE	
	<p>client requirements.</p> <ul style="list-style-type: none"> the evidence required to assess compliance with the criteria and to support an objective, reliable and consistent audit outcome. definitions, levels and related reporting of non-conformance to comply with legislative requirements. <ul style="list-style-type: none"> Submit completed audit records for the selected audit including the final audit report, non-conformity reports, corrective action reports, follow up reports and suggestions for improvements to the food safety management system and to the audit process. These latter items may be documented in personal notes rather than part of the formal audit report according to the audit scope.
Context of and specific resources for assessment	<p>Competency may be assessed in an actual workplace or simulated environment that provides access to the required resources. At least one of the audit scenarios should be assessed in an actual workplace context.</p> <p>Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.</p> <p>The following resources must be available:</p> <ul style="list-style-type: none"> food safety plans food safety-related documentation typical of commercial manufacturing businesses and used for the purpose of verification evidence and documentation relevant to processes that would typically be used by commercial manufacturing businesses to support validation processes plant and equipment that would typically be used in a commercial manufacturing business.
Method of assessment	<p>The following assessment methods should be considered to gather sufficient and valid evidence of competency:</p> <ul style="list-style-type: none"> observation, including the completion of documentation to show the planning and conducting of an audit a report on the legal responsibilities of the food business questioning to test the level and application of knowledge

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation to show validation and verification processes used • completion of all audit records. <p>The whole audit process must be witnessed by the assessor.</p> <p>Assessment methods must satisfy the endorsed Assessment Guidelines of FDF10 Food Processing Industry Training Package.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Food safety audits	Audits may be conducted for either regulatory or commercial food safety systems for low, medium or high risk food safety hazards
Licensing/certification requirements	Licensing and registration arrangements are determined by system owners
Audit scope	<p>The audit scope describes the purpose, extent and boundaries of the audit. This may include:</p> <ul style="list-style-type: none"> • physical locations • products • processes • time period covered by the audit • extent of authority of the auditor
Legal requirements	<p>The scope of the audit determines and may be determined by food safety legislation which may include:</p> <ul style="list-style-type: none"> • Food Standards Code • relevant state legislation and related codes of practice, including industry sector-specific legislation and related codes of practice, such as those relating to meat, seafood, dairy and primary production and processing • regulatory and commercial requirements relevant to importing countries • commonwealth legislation (e.g. Export Control Act) • other legislation which may impact on the conduct of a food safety auditor and may include legislation covering: <ul style="list-style-type: none"> • OHS, anti-harassment, anti-discrimination and industrial relations • trade practices legislation • environmental risk management

RANGE STATEMENT	
	<ul style="list-style-type: none"> • legal contracts or agreements
Audit client	<p>Audit client refers to the organisation or person requesting an audit (system owner). This may be the same as the auditee or any other organisation which has the regulatory or contractual right to request an audit.</p> <p>The system owner may be the regulator</p>
Auditee	Auditee refers to the organisation being audited
Audit client requirements	<p>Client requirements are typically defined in audit contracts or agreements and may relate to:</p> <ul style="list-style-type: none"> • legal requirements • food safety management system requirements • compliance with client site operational policies and procedures • confidentiality • business size, activities and processes • business culture • professional standards of conduct
Audit criteria	<p>The audit criteria must comply with relevant food safety legislation and may extend to address additional system owner/client requirements. In addition to meeting the requirements of food safety legislation, reference against which conformity is determined may include:</p> <ul style="list-style-type: none"> • management systems policies and procedures • industry standards or codes • contractual requirements • international treaties and conventions
Levels of non-conformity	<p>Levels of non-conformity are defined and based on food safety risk. They may be determined by:</p> <ul style="list-style-type: none"> • the management system • the audit client • legislation • where legislation applies, definitions may be determined by: <ul style="list-style-type: none"> • state and territory authorities • AQIS • primary industry jurisdiction

RANGE STATEMENT	
	<ul style="list-style-type: none"> • primary food production jurisdiction
Audit evidence	<p>Evidence required for the purposes of meeting relevant food safety legislation may be defined by:</p> <ul style="list-style-type: none"> • the client and/or the regulatory authority <p>Audit evidence should be based on objective information rather than hearsay and may include:</p> <ul style="list-style-type: none"> • system records • evidence collection records • statements of fact or other information relevant to the audit criteria and which is verifiable • observations • records of audit stage progression
Evidence collection methods and sources	<p>Evidence collection methods and sources will depend on the purpose and scope of the audit and may include:</p> <ul style="list-style-type: none"> • observation • interviews • checklists • auditee documentation review • reports/data from other sources, such as customer feedback, technical references, computerised databases • results of analyses
Food safety management system	<p>A food safety management system is a documented arrangement implemented (and resourced) by a business for control of food safety. A food safety management system includes:</p> <ul style="list-style-type: none"> • commitment from management, procedures and practices to identify and control food safety hazards and prevent their recurrence. It may incorporate recognised food safety tools, such as HACCP and its prerequisite programs
Resource requirements	<p>Resource requirements will depend on the purpose and scope of the audit and may include:</p> <ul style="list-style-type: none"> • audit personnel directly involved in undertaking the audit

RANGE STATEMENT	
	<ul style="list-style-type: none"> • access to relevant personnel and information within the business • access to any additional resources as required
Food businesses	A food business refers to a business, vehicle, enterprise or activity where food is produced, processed, stored, displayed, transported and/or sold. It may also include primary producers
Preliminary work	<p>Preliminary work includes but is not limited to:</p> <ul style="list-style-type: none"> • identifying food to be covered by the food safety program • defining the food and the method of distribution • identifying customers and intended use of food • describing the process (flowchart) • checking for accuracy and completeness of the previous steps
Validation	Validation refers to obtaining evidence to confirm that a HACCP-based food safety program is complete and effective and will deliver the expected food safety outcomes
Verification	Verification refers to methods and procedures used to carry out monitoring, including sampling and testing to provide evidence that the specifications set by relevant legislation and codes of practice continue to be met
Audit records	<p>Audit records are maintained to demonstrate the implementation of the audit process. These may include but are not limited to:</p> <ul style="list-style-type: none"> • audit plans • audit reports • non-conformity reports • corrective action reports • follow up reports
Close out	<p>Auditors have different levels of responsibility and authority to close out audits according to the level of non-conformity and whether they are an authorised officer or a commercial auditor. Closing out may involve notifying the regulator</p>

RANGE STATEMENT	
	with the power to enforce legislation
Commercial auditor	Commercial auditor refers to any auditor other than a regulatory auditor, who is external to and independent of the food business being audited
Risk-based approaches	Risk-based approaches to controlling food safety are typically based on HACCP, described in the Codex Alimentarius guidelines
Prerequisite programs	<p>Prerequisite programs are also referred to as support programs, such as Good Manufacturing Practice (GMP), Good Agricultural Practice (GAP) and Good Hygiene Practice (GHP)</p> <p>Prerequisite programs can be divided into two categories.</p> <p>Infrastructure and maintenance programs. These may include:</p> <ul style="list-style-type: none"> • layout, design and construction of buildings and facilities • supplies of air, water, energy and other utilities • equipment, including preventative maintenance, sanitary design and accessibility for maintenance and cleaning • support services, including waste and sewage disposal <p>Operational prerequisite programs. These may include:</p> <ul style="list-style-type: none"> • personal hygiene • cleaning and sanitation • pest control • measures for the prevention of cross-contamination • packaging and labelling procedures • supplier assurance • chemical storage • employee training • maintenance • calibration • document control • internal audit programs

RANGE STATEMENT	
	<ul style="list-style-type: none"> • traceability and recall programs • on-farm food safety schemes • inspecting and testing regimes, including analytical and microbiological testing
Critical control point	Critical control point is a step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level
Critical limit	Critical limit refers to criterion which separates acceptability from unacceptability

Unit Sector(s)

Unit sector	Food safety auditing
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFAU4004A Identify, evaluate and control food safety hazards

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to identify, evaluate and control food safety hazards for the purposes of validating specific control measures in a food safety program.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to regulatory, commercial and internal food safety system auditors.</p> <p>When this unit is applied to regulatory auditing it should be noted that the National Food Safety Audit Policy for regulatory auditing requires that, when assessing compliance of food safety programs in a medium or high risk environment, the following units must be pre or co-assessed with this unit:</p> <ul style="list-style-type: none"> • FDFAU4002A Communicate and negotiate to conduct food safety audits • FDFAU4003A Conduct food safety audits. <p>When applied to conducting regulatory food safety audits of high risk food businesses or processes, additional food safety auditing unit/s relevant to the specified business or process may be required under the National Food Safety Audit Policy. Current high risk food safety auditing units are:</p> <ul style="list-style-type: none"> • FDFAU4005A Audit bivalve mollusc growing and harvesting processes • FDFAU4006A Audit a cook chill process • FDFAU4007A Audit a heat treatment process • FDFAU4008A Audit manufacturing of ready-to-eat meat products.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify food safety hazards in a food business	<p>1.1. Biological food safety hazards that could present a risk in the food at the point of consumption are identified by type, origin and food association and assessed to determine risk level and control requirements</p> <p>1.2. Intrinsic and extrinsic chemical food safety hazards that could present a risk in the food at the point of consumption, including toxin presence, are identified by type, origin and food association and assessed to determine risk level and control requirements</p> <p>1.3. Physical food safety hazards that present a risk in food are identified and assessed to determine control requirements</p>
2. Control food safety hazards in a food business	<p>2.1. Processing hazards and related control measures and critical limits, monitoring and recording requirements are established and validated to eliminate or reduce food safety hazards to acceptable levels</p> <p>2.2. Food storage and handling requirements necessary to eliminate or reduce food safety hazards are determined</p> <p>2.3. Personal hygiene practices required to eliminate or reduce food safety hazards are established</p> <p>2.4. Cleaning and sanitation, housekeeping and pest control practices and procedures required to prevent or reduce food safety hazards are established</p> <p>2.5. Other prerequisite programs are developed to eliminate or reduce food safety hazards to acceptable levels</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- interpret and apply relevant legislation, codes of practice and technical standards
- identify biological, chemical and physical food safety hazards
- determine critical control points and critical limits for identified hazards
- establish the required procedures, systems and records to monitor critical control points in order to demonstrate that the critical control point is in control
- specify required corrective actions and corrections to be taken when critical limits are not achieved

Required knowledge

Knowledge of:

- sources of advice and research on foods, processing methods, production technologies and associated food safety hazards and control methods
- ways in which food can cause illness and injury, including incidence and trends in food-borne illness
- intrinsic and extrinsic factors that can impact on food safety
- common biological food safety hazards (including toxin production and spore formation) and conditions required for survival and growth of each, including growth rates, transmission routes, likely carriers and threshold levels
- sources of information on acceptable (and legal) levels of biological, chemical and physical contamination
- food supply chains and potential of a breakdown in control at one point to impact other parts of the chain
- survival and growth requirements of biological food safety hazards
- common allergenic substances as described by the Food Standards Code (and may be additionally defined by system owners)
- common control methods necessary to eliminate or reduce the risk of food-borne illness to acceptable levels for each common pathogen, including the role of food storage, temperature control, preservation and process methods, traceability, product shelf-life, cleaning and sanitation, and pest control
- methods to detect and minimise the risk of food contamination by personal carriers, including convalescent and symptomless carriers, and related minimum legal illness reporting requirements and personal hygiene procedures
- the role of microbiological sampling, swabbing and testing in assessing the presence of biological contamination
- methods to determine the appropriateness and effectiveness of control measures and critical limits, including identifying the effect of control measures on the

REQUIRED SKILLS AND KNOWLEDGE

identified food safety hazard, method and feasibility of monitoring, the relationship to other control measures, and the severity of consequences and required corrective action in the event of failure of control

- types and causes of acute and chronic chemical food borne illness
- the food safety and legal impact of chemical contamination, including residual agricultural and environmental chemicals, residual industrial (including cleaning) chemicals, and chemical contamination as a result of packaging methods and materials
- physical hazards that pose a food safety risk
- common control methods to eliminate or reduce the risk of chemical or physical food-borne illness to acceptable levels for each common form of chemical and physical food safety hazard, including:
 - chemicals that pose a food safety risk
 - common food allergens
 - physical hazards
- the role and requirements of prerequisite programs and procedures to eliminate, prevent or reduce biological, chemical and physical food safety hazards to acceptable levels

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to establish or validate specific control measures in a food safety program based on demonstration of the identification, evaluation and control of food safety hazards.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • select a food supply chain and identify: <ul style="list-style-type: none"> • known biological food safety hazards that could occur across the chain and could present a risk in food at the point of consumption • likely patterns of growth and transmission from source of contamination to onset of consumer symptoms for pathogens likely to occur in the supply chain, including threshold levels • sources of chemical and physical contamination that could present a food safety risk at the time of food consumption, across the chain • impact and indicators of the presence of biological or chemical food safety hazards throughout the food chain • acceptable levels of contamination. These may be established by reference to relevant legislation and/or reference to system requirements • select one stage in the food supply chain (which must be a medium or high risk business or process) and establish or validate control measures and verification records and procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment may occur in a real or simulated food business context where the simulated context provides access to food safety programs for a multi-staged food supply chain which includes the point of delivery to the</p>

EVIDENCE GUIDE	
	<p>consumer.</p> <p>The selected supply chain must include at least one medium or high risk business and/or process and provide opportunity to apply a depth and breadth of food safety knowledge.</p>
Method of assessment	<p>The following assessment methods should be considered to gather sufficient and valid evidence of competency:</p> <ul style="list-style-type: none"> • observation and documentation showing the identification of critical aspects of a food chain • questioning to test the level and application of knowledge • workplace example or scenario to produce validated control measures and verification records and procedures for food safety hazards.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Licensing/certification requirements

Licensing and registration arrangements are determined by system owners

Food safety hazards

A food safety hazard is a biological, chemical, or physical agent in, or condition of, food with the potential to cause an adverse health effect in humans (defined in 'Hazard Analysis and Critical Control Point System and Guidelines for its Application', Codex Alimentarius Commission)

Biological food safety hazards

Common biological food safety hazards include but are not limited to:

- Salmonella spp
- Campylobacter jejuni
- Bacillus cereus
- Clostridium perfringens
- Clostridium botulinum
- Cryptosporidium
- Pathogenic escherichia coli
- Giardia
- Listeria monocytogenes
- Shigella spp
- Staphylococcus aureus
- Vibrio parahaemolyticus
- Yersinia enterocolitica
- Hepatitis A virus
- Norwalk virus

Classifications by type of micro-organism include:

- bacteria
- viruses
- moulds/fungi
- parasites

RANGE STATEMENT	
	<ul style="list-style-type: none"> algae
Chemical food safety hazards	<p>Common origins of chemical contamination may include:</p> <ul style="list-style-type: none"> cleaning chemicals pesticides veterinary residues chemical additives allergenic substances toxic metals nitrites, nitrates and N-nitroso compounds polychlorinated biphenyls (PCBs) plasticizers and packaging migration phytotoxins zootoxins
Physical food safety hazards	<p>Physical food safety hazards refer to objects not normally found in food which may cause illness or injury to the consumer</p>
Acceptable levels	<p>Acceptable levels define the level of a particular hazard in the end product that is acceptable to ensure food safety. Acceptable levels are typically defined by:</p> <ul style="list-style-type: none"> the Food Standards Code commonwealth, state or territory legislation or codes industry codes of practice international protocols (CODEX Alimentarius) customer food safety requirements (including intended use)
Prerequisite programs	<p>Prerequisite programs are also referred to as support programs, such as Good Manufacturing Practice (GMP), Good Agricultural Practice (GAP) and Good Hygiene Practice (GHP).</p> <p>Prerequisite programs can be divided into two categories.</p> <p>Infrastructure and maintenance programs. These may include:</p> <ul style="list-style-type: none"> layout, design and construction of buildings and facilities

RANGE STATEMENT	
	<ul style="list-style-type: none"> • supplies of air, water, energy and other utilities • equipment, including preventative maintenance, sanitary design and accessibility for maintenance and cleaning • support services, including waste and sewage disposal <p>Operational prerequisite programs. These may include:</p> <ul style="list-style-type: none"> • personal hygiene • cleaning and sanitation • pest control • measures for the prevention of cross-contamination • packaging and labelling procedures • supplier assurance • chemical storage • employee training • maintenance • calibration • document control • internal audit programs • traceability and recall programs • on-farm food safety schemes • inspecting and testing regimes, including analytical and microbiological testing
Critical control point	Critical control point is a step at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level
Critical limit	Critical limit refers to criterion which separates acceptability from unacceptability
Food supply chain	Food supply chain refers to a sequence of stages and operations involved in the production, processing, distribution and handling of food from primary production to consumption
Growth requirements	<p>Factors which influence the growth of pathogenic micro-organisms may include:</p> <ul style="list-style-type: none"> • temperature

RANGE STATEMENT	
	<ul style="list-style-type: none"> • water activity • gases • pH • time • moisture • nutrients
Validation	Validation refers to obtaining evidence to confirm that a HACCP-based food safety program is complete and effective and will deliver the expected food safety outcomes
Validation evidence	<p>Validation evidence confirms that control measures are capable of being consistently effective and may include the application of:</p> <ul style="list-style-type: none"> • existing Australian legislative requirements • challenge tests • peer reviewed scientific papers • targeted scientific reports • validation already carried out in other jurisdictions and recognised by the responsible authority • mathematical modelling (e.g. predictive microbiology models) • industry codes of practice (where implementation by food business is verified during audits)

Unit Sector(s)

Unit sector	Food safety auditing
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFAU4005A Audit bivalve mollusc growing and harvesting processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit of competency covers the skills and knowledge to support a food safety audit of food safety programs of bivalve mollusc producers.</p> <p>The unit covers on-shore and wild growing, harvesting, cleaning, post-harvest handling and storage, stock movement, depuration (where applicable) and wet storage.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to the role of a food safety auditor responsible for auditing a bivalve mollusc growing and harvesting process. These audits would typically occur within the context of auditing a HACCP-based food safety program that defines related prerequisite program requirements. The audits are supported by state and territory government regulations for prescribing processes and requirements relating to the production of bivalve molluscs.</p> <p>This unit does not cover the skills and knowledge to audit the classification of growing areas.</p> <p>This unit supports relevant legislation, such as food standards contained in the Food Standards Code and industry codes of practice relating to validation and verification of a HACCP-based food safety program, and should be read in conjunction with these documents.</p> <p>Both regulatory and commercial audit system owners may specify additional certification requirements of auditors eligible to audit food safety programs within their system.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFAU4002A	Communicate and negotiate to conduct food safety audits
	FDFAU4003A	Conduct food safety audits
	FDFAU4004A	Identify, evaluate and control food safety hazards

Employability Skills Information

Employability skills	
	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Identify and assess food safety hazards and related control options for growing and harvesting bivalve molluscs</p>	<p>1.1. Microbiological food safety hazards that could present a risk in bivalve molluscs at the point of consumption are identified by type and origin and assessed to determine risk level and control requirements</p> <p>1.2. Chemical food safety hazards that could present a risk in bivalve molluscs at the point of consumption, including toxin presence, are identified by type and assessed to determine risk level and control requirements</p> <p>1.3. Control requirements and methods to ensure that bivalve molluscs meet food safety objectives are identified</p>
<p>2. Confirm that appropriate evidence supports validation of growing and harvesting bivalve molluscs</p>	<p>2.1. Validation evidence and records are reviewed to confirm that an appropriate level of validation has been applied</p> <p>2.2. Evidence used by the business to validate the process is identified and assessed to confirm that it is credible and adequate to meet the food safety objective</p>
<p>3. Verify bivalve mollusc growing and harvesting processes</p>	<p>3.1. System records required to support verification against relevant shellfish quality programs are identified, collected and reviewed</p> <p>3.2. Business documentation is reviewed and inspections are conducted to confirm that facilities and equipment design and components comply with regulatory and business standards</p> <p>3.3. Business documentation is reviewed and inspections are conducted to confirm that operational monitoring and testing procedures and frequency meet regulatory requirements, and industry and business standards</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to

- interpret and apply relevant legislation, codes of practice and technical standards relating to growing and harvesting bivalve molluscs
- identify microbiological and chemical food safety hazards to be controlled by bivalve mollusc growing and harvesting practices and processes
- inspect facilities and equipment to confirm that regulatory, industry and business standards are met
- review evidence used to validate the food safety control process
- review workplace records and other documentation to verify that the food safety program relating to the production of bivalve molluscs meets regulatory requirements and is effectively implemented

Required knowledge

Knowledge of:

- regulations, codes of practice, guidelines and Australian standards relating to production of bivalve molluscs and related role of government in overseeing implementation of shellfish quality programs
- basic biology and physiology of bivalve molluscs and related sources of food safety risk
- pathogens that can occur in bivalve molluscs and related survival and growth characteristics and control methods
- chemicals that pose a food safety risk in bivalve molluscs
- sources of environmental contamination that can present a food safety risk in the growing and harvesting of bivalve molluscs and related food safety controls, including risks associated with both on-shore and wild fisheries
- sources of information on acceptable and legal product quality requirements, including legal limits to ensure product safety
- classifications applying to harvesting areas, system for monitoring and determining status, sources of advice on classification and methods of communicating classification information
- sources of pre- and post-harvest contamination and related control requirements
- risks and related control methods to prevent cross-contamination, including sorting and cleaning
- prerequisite programs required to support bivalve mollusc growing and harvesting
- basic principles of water sampling and test methods
- principles and associated control measures relating to effective purging of shellfish, including methods, such as relaying and depuration, when practised in accordance

REQUIRED SKILLS AND KNOWLEDGE

- with state and territory legal and regulatory requirements
- risks associated with depuration and wet storage methods, and related control methods and prerequisite programs that meet legal requirements
- sources of pre- and post-harvest contamination, such as sewage, algal biotoxins and vibrio organisms and related control requirements
- stock handling and storage risks and control methods
- facilities and equipment used in the growing and harvesting of bivalve molluscs, including features required to meet regulatory requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competence in this unit must be able to provide evidence that they can verify that food safety programs covering growing and harvesting bivalve molluscs meet regulatory, industry and business standards.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> participate in audits of HACCP-based food safety programs to demonstrate ability and knowledge of technical aspects of growing and harvesting bivalve molluscs. Audit scenarios must include at least one audit involving relaying, depuration or wet storage.
<p>Context of and specific resources for assessment</p>	<p>Competency is to be assessed in an environment where bivalve molluscs are grown and harvested.</p> <p>Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.</p> <p>The following resources must be available:</p> <ul style="list-style-type: none"> food safety programs covering bivalve mollusc growing and harvesting processes food safety related documentation typical of commercial growing and harvesting businesses and used for the purpose of verification plant and equipment that would typically be used in a commercial bivalve mollusc growing and harvesting business.
<p>Method of assessment</p>	<p>This unit only covers the technical skills and knowledge related to the specific area of risk. Generic food safety auditing skills and knowledge are covered in prerequisite units. While participation in audit processes should follow good auditing practice as specified by prerequisite units, formal assessment of generic food safety auditing</p>

EVIDENCE GUIDE

	<p>competence does not need to be repeated when assessing this unit.</p> <p>The following assessment methods should be considered to gather sufficient and valid evidence of competence:</p> <ul style="list-style-type: none"> • observation and a report covering the audits specified in this • oral and written questioning to test the level and application of underpinning knowledge • workplace example or scenario to allow verification of records for food safety to be demonstrated. <p>Audits conducted for the purpose of assessment must be witnessed by an auditor competent to audit bivalve growing and harvesting processes.</p> <p>The audits conducted for the purpose of assessment must be witnessed by an auditor competent to audit bivalve mollusc growing and harvesting processes.</p> <p>Assessment methods must satisfy the endorsed Assessment Guidelines of the FDF10 Food Processing Industry Training Package.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Microbiological food safety hazards	Microbiological food safety hazards may include: <ul style="list-style-type: none"> • Hepatitis A virus • Norwalk virus • <i>Vibrio parahaemolyticus</i> • <i>V. vulnificus</i> • <i>Salmonella spp</i> • pathogenic <i>Escherichia coli</i>
Bivalve molluscs	Bivalve molluscs may include: <ul style="list-style-type: none"> • oysters (Pacific, Sydney rock, Angassi (native) and pearl) • mussels • pipis • clams (strawberry and razor) • cockles (sand, dog, blood and mud) • scallops and other adductor bivalves, including pearl oyster meat (unless adductor muscle only)
Chemical food safety hazards	Chemical food safety hazards may include common origins of chemical contamination, including: <ul style="list-style-type: none"> • phycotoxins: harmful algal blooms, such as amnesic shellfish poisoning (ASP), neurotoxic shellfish poisoning (NSP), diarrhetic shellfish poisoning (DSP) and paralytic shellfish poisoning (PSP) • pesticides • water additives • toxic metals • polychlorinated biphenyls (PCBs)
Validation	Validation refers to obtaining evidence to confirm that a HACCP-based food safety program is complete and effective and will deliver the

RANGE STATEMENT	
	expected food safety outcomes
Validation evidence	<p>Validation evidence confirms that control measures are capable of being consistently effective and may include the application of:</p> <ul style="list-style-type: none"> • existing Australian legislative requirements • challenge tests • peer reviewed scientific papers • targeted scientific reports • validation already carried out in other jurisdictions and recognised by the responsible authority • mathematical modelling (e.g. predictive microbiology models) • industry codes of practice (where implementation by food business is verified during audits)
Verification	<p>Verification refers to methods and procedures used to carry out monitoring, including sampling and testing to provide evidence that the specifications set by relevant legislation and codes of practice continue to be met</p>
Shellfish quality programs	<p>Australian shellfish quality assurance programs administered by state and territory shellfish control authorities</p>
Business standards	<p>Business standards refer to standards or technical specifications set by the system owner based on and in addition to regulatory requirements that relate specifically to food safety</p>
Relevant legislation, codes of practice and technical standards	<p>Relevant legislation, codes of practice and technical standards relating to bivalve molluscs may include:</p> <ul style="list-style-type: none"> • Food Standards Code 4.2.1: Primary Production and Processing Standards for Seafood (Australia only), FSANZ • Australian Shellfish Quality Assurance Program: Operations Manual, May 2005 • AQIS Australian Shellfish Quality Assurance Program, Export Standards, 2004 • state and territory regulations, codes of

RANGE STATEMENT	
	practice and guidelines
Role of government in overseeing implementation of shellfish quality programs	<p>Role of government in overseeing implementation of shellfish quality programs:</p> <ul style="list-style-type: none"> responsibility and capacity to control food safety hazards is shared by the state and territory governments through the relevant state and territory authority responsible for managing harvesting areas and by the farmer who is responsible for managing the harvest and post-harvest handling and storage

Unit Sector(s)

Unit sector	Food safety auditing
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFAU4006A Audit a cook chill process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to support a food safety audit of food safety programs that include extended life cook chill processes.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to the role of a food safety auditor responsible for auditing extended and short shelf-life cook chill processes. Audit processes would typically occur within the context of auditing a HACCP-based food safety program that defines related prerequisite program requirements.</p> <p>This unit applies to cook chill products which are minimally heat-processed foods distributed as chilled products with defined shelf-life. It supports relevant legislation, such as food standards contained in the Food Standards Code and industry codes of practice relating to the validation and verification of a HACCP-based food safety program, and should be read in conjunction with these documents.</p> <p>Both regulatory and commercial audit system owners may specify additional certification requirements of auditors eligible to audit food safety programs within their system.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFAU4002A	Communicate and negotiate to conduct food safety audits
	FDFAU4003A	Conduct food safety audits
	FDFAU4004A	Identify, evaluate and control food safety hazards

Employability Skills Information

Employability skills	
	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Identify and assess food safety hazards and related control options for cook chill processes</p>	<p>1.1. Microbiological food safety hazards that could present a risk in cook chill products at the point of consumption are identified by type, origin and food association and assessed to determine the significance of the hazard</p> <p>1.2. Chemical food safety hazards that could present a risk in cook chill products at the point of consumption, including toxin presence, are identified by type and food association and assessed to determine risk level and control requirements</p> <p>1.3. Physical food safety hazards that could present a risk in the food at the point of consumption are identified and assessed to determine risk level and control requirements</p> <p>1.4. Cook chill process control requirements and methods are identified to ensure that finished, cook chill products meet food safety objectives</p>
<p>2. Confirm that appropriate evidence supports validation of the cook chill process</p>	<p>2.1. Validation evidence and records are reviewed to confirm that appropriate level of validation has occurred</p> <p>2.2. Evidence used by the business to validate the process is identified and assessed to confirm that it is credible and adequate to achieve the food safety objective</p>
<p>3. Verify the food safety program for a cook chill process</p>	<p>3.1. System records required to support verification are identified, collected and reviewed</p> <p>3.2. Business documentation is reviewed and inspections are conducted to confirm that facilities and equipment design and components comply with regulatory and business standards</p> <p>3.3. Business documentation is reviewed and inspections are conducted to confirm that operational monitoring and testing procedures and frequency meet regulatory requirements, and industry and business standards</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- interpret and apply relevant legislation, standards, codes of practice and technical specifications relating to heat treatment of foods in a cook chill process
- identify target micro-organisms to be controlled by a cook chill process according to food type and cold chain capacity
- inspect extended and short shelf-life cook chill plant and equipment to confirm that regulatory, industry and business standards are met
- apply principles of heat treatment and chilling to assess suitability of extended and short shelf-life cook chill processes to ensure food safety objectives are achieved
- review workplace records, including results of process monitoring and documentation of corrective actions to verify that the food safety program relating to cook chill processes is being implemented according to the prescribed process
- review evidence used to validate the food safety control process
- confirm methods and evidence used to test the reliability of cook chill processes

Required knowledge

Knowledge of:

- regulations, codes of practice, guidelines, technical standards and Australian standards relating to all forms of cook chill processing of foods
- target organisms that can occur in extended and short shelf-life cook chill foods, their survival and growth characteristics and related control methods
- principles of heat treatment and chilling as they apply to extended and short shelf-life cook chill processing methods and product types
- criteria used to specify heat treatment, cooling, storage and shelf-life parameters for extended and short shelf-life cook chill products
- factors that impact on heat and chilling processes meeting food safety objective
- prerequisite programs required to support effectiveness of cook chill processes
- operational principles of commercial extended and short shelf-life cook chill equipment, including equipment features required to meet regulatory requirements and critical factors to be controlled to ensure delivery of heating and chilling processes that meet food safety objective
- features of the environment in which cook chill foods are distributed, including risk factors
- foods and preparation methods that present a particular risk to vulnerable populations, including cross-contamination risks associated with multi-tasking and cold chain maintaining temperatures during storage, transport and distribution
- principles of packaging to form a suitable seal and impact of processing parameters

REQUIRED SKILLS AND KNOWLEDGE

- and conditions on packaging integrity
- effect of characteristics and pre-processing of raw materials and post-process packaging on the stability and safety of the product
- labelling requirements for extended and short shelf-life cook chill products
- food safety risks and controls to avoid post-process contamination of heat-treated product
- principles of test methods and frequency to confirm the effectiveness of cook chill processes and meet regulatory, industry and business standards

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competence in this unit must be able to provide evidence that they can verify cook chill processes for a range of foods to meet regulatory, industry and business standards. They must also demonstrate capacity to confirm that appropriate validation has occurred.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify target organisms for a range of foods • determine capacity of distribution chain to control temperature parameters • determine requirements of specific extended and short shelf-life cook chill methods for a range of products • participate in audits of HACCP-based food safety programs to demonstrate ability and knowledge of technical aspects of extended and short shelf-life cook chill processes - audit scenarios must include: <ul style="list-style-type: none"> • a five-day cook chill process • a kettle or cook tank cook chill process • a sous vide cook chill process. <p>For given scenarios where prescribed cook chill processing requirements are not met, assess adequacy of evidence used to determine response procedures.</p>
<p>Context of and specific resources for assessment</p>	<p>Competency may be assessed in an actual workplace or simulated environment that provides access to the required resources.</p> <p>Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.</p> <p>The following resources should be made available:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • food safety programs covering extended and short shelf-life cook chill processes • food safety-related documentation typical of commercial businesses producing extended and short shelf-life cook chill products and used for the purpose of verification • evidence or documentation relevant to extended and short shelf-life cook chill processes that would typically be used by commercial businesses producing extended and short shelf-life cook chill products to support validation processes • plant and equipment that would typically be used by commercial businesses producing extended and short shelf-life cook chill products.
Method of assessment	<p>This unit only covers the technical skills and knowledge related to the specific area of risk. Generic food safety auditing skills and knowledge are covered in prerequisite units. While participation in audit processes should follow good auditing practice as specified by prerequisite units, formal assessment of generic food safety auditing competence does not need to be repeated when assessing this unit.</p> <p>The following assessment methods should be considered to gather sufficient and valid evidence of competency:</p> <ul style="list-style-type: none"> • observation and a report covering the audits specified in this • oral and written questioning to test the level and application of knowledge relevant to identifying target organisms for a range of foods, determining capacity of distribution chain to control temperature parameters and determining requirements of specific extended and short shelf-life cook chill methods for a range of products • workplace example or scenario to allow verification of records for food safety to be demonstrated. <p>Audits conducted for the purpose of assessment must be witnessed by an auditor competent to audit extended and short shelf-life cook chill processes.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where</p>

EVIDENCE GUIDE

possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Cook chill products

Cook chill products may include:

- long shelf-life refrigerated foods
- short shelf-life refrigerated foods
- heat-treated refrigerated foods (HTRF) packed for extended shelf-life
- refrigerated processed foods of extended durability (REPFED)
- sous vide foods

Physical food safety hazards

Physical food safety hazards include an understanding of physical standards that may present particular risks to vulnerable populations either due to the nature of the food, the preparation method and/or the preparation environment

Validation

Validation refers to obtaining evidence to confirm that a HACCP-based food safety program is complete and effective and will deliver the expected food safety outcomes

Validation evidence

Validation evidence confirms that control measures are capable of being consistently effective and may include the application of:

- existing Australian legislative requirements
- challenge tests
- peer reviewed scientific papers
- targeted scientific reports
- validation already carried out in other jurisdictions and recognised by the responsible authority
- mathematical modelling (e.g. predictive microbiology models)
- industry codes of practice (where implementation by food business is verified)

RANGE STATEMENT	
	during audits)
Verification	Verification refers to methods and procedures used to carry out monitoring, including sampling and testing to provide evidence that the specifications set by relevant legislation and codes of practice continue to be met
Equipment	Equipment includes: <ul style="list-style-type: none"> • cook tanks • self-stirring kettles • combi ovens • re-thermalisation cabinets • brat pans • blast chillers • water baths • pump-fill station
Business standards	Business standards refer to standards or technical specifications set by the system owner based on and in addition to regulatory requirements that relate specifically to food safety
Test methods	Test methods include: <ul style="list-style-type: none"> • conducting studies of process evaluation • conducting studies of equipment performance
Relevant legislation, standards, codes of practice and technical specifications	Relevant legislation, standards, codes of practice and technical specifications relating to retort requirements may include: <ul style="list-style-type: none"> • relevant sections of the Australia New Zealand Food Standards Code • Australia Cook Chill Council, Guidelines for Chilled Food Production Systems Including Food Safety Programs, 2000 • Validation and Verification of Heat Treatment Equipment and Processes (ANZDAC - draft) • international protocols such as those of CODEX Alimentarius Commission • AQIS Code of Hygienic Practice for Heat-treated Refrigerated Foods Packaged for Extended Shelf Life, 1992 • state and territory regulations, codes of practice and guidelines

RANGE STATEMENT	
Target organisms	<p>Target organisms are dependent on the food and cold chain capacity and include:</p> <ul style="list-style-type: none"> • <i>Listeria monocytogenes</i> • <i>Clostridium botulinum</i> • <i>Bacillus cereus</i> • <i>Salmonella</i> • <i>Yersinia enterocolitica</i>
Prerequisite programs	<p>Prerequisite programs are also referred to as support programs, such as Good Manufacturing Practice (GMP), Good Agricultural Practice (GAP) and Good Hygienic Practice (GHP).</p> <p>Prerequisite programs can be divided into two categories:</p> <p>Infrastructure and maintenance programs. These may include:</p> <ul style="list-style-type: none"> • layout, design, construction and amenities of buildings and facilities • supplies of air, water, energy and other utilities • equipment, including sanitary design, preventative maintenance, calibration and cleaning and sanitation • support services, including waste and sewage disposal • pest control <p>Operational prerequisite programs. These may include:</p> <ul style="list-style-type: none"> • personal hygiene • measures for the prevention of cross-contamination • packaging and labelling procedures • supplier assurance • chemical storage • employee training • document control • internal audit programs • traceability programs • product integrity and security • cold chain management • inspecting and testing regimes, including analytical and microbiological testing

RANGE STATEMENT	
	<ul style="list-style-type: none"> control of non-conforming product, including product recall programs
Vulnerable populations	<p>Vulnerable populations are defined by the sensitivity of a population. Examples of sectors serving food to vulnerable populations include:</p> <ul style="list-style-type: none"> hospitals aged care facilities childcare centres organisations delivering to housebound people
Packaging methods	<p>Packaging methods include:</p> <ul style="list-style-type: none"> controlled atmosphere (CA) packaging modified atmosphere (MA) packaging vacuum packing
Additional reference material	<p>Additional reference material includes:</p> <ul style="list-style-type: none"> Food Standards Australia New Zealand, Safe Food Australia - A Guide to the Food Safety Standards, Australian Government Printing Service, Canberra Campden & Chorleywood Food Research Association Publications

Unit Sector(s)

Unit sector	Food safety auditing
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFAU4007B Audit a heat treatment process

Modification History

This unit supersedes and is equivalent to FDFAU4007A Audit a heat treatment process. November 2011: update to Evidence Guide.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to support a food safety audit that includes heat treatment processes designed to bring about a defined logarithmic reduction of the target organism to ensure safe food. This may include pasteurised product with a nominated refrigerated shelf life and commercially sterile, shelf-stable product.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to the role of a food safety auditor responsible for auditing heat treatment processes. Audit processes would typically occur within the context of auditing a HACCP-based food safety program that defines related prerequisite program requirements. This unit applies to auditing aspects of the process that directly relate to delivering the prescribed heat treatment. It covers related factors, such as raw materials receipt, pre- and post-process storage and packaging methods and materials only to the extent that impact on or are controlled by the heat treatment process.</p> <p>It supports relevant legislation such as food standards contained in the Food Standards Code and industry codes of practice relating to the validation and verification of a HACCP-based food safety program, and should be read in conjunction with these documents.</p> <p>Both regulatory and commercial audit system owners may specify additional certification requirements of auditors eligible to audit food safety programs within their system.</p> <p>Where an auditor is responsible for auditing heat treatment as part of a cook chill process, they will also need to achieve competence in FDFAU4006A Audit a cook chill process.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFAU4002A	Communicate and negotiate to conduct food safety audits
	FDFAU4003A	Conduct food safety audits
	FDFAU4004A	Identify, evaluate and control food safety hazards

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Identify and assess food safety hazards and related control options for heat treatment processes</p>	<p>1.1. Microbiological food safety hazards that could present a risk in the food at the point of consumption are identified by type, origin and food association level and assessed to determine the significance of the hazard</p> <p>1.2. Heat treatment processes, control requirements and methods are identified to ensure that finished, heat-treated products meet food safety objectives</p>
<p>2. Confirm that appropriate evidence supports validation of the heat treatment process</p>	<p>2.1. Validation evidence and records are reviewed to confirm that an appropriate level of validation has been applied</p> <p>2.2. Evidence used by the business to validate the process is identified and assessed to confirm that it is credible and adequate to achieve the food safety objective</p>
<p>3. Confirm verification of the food safety program for a heat treatment process</p>	<p>3.1. System records required to support verification are identified, collected and reviewed</p> <p>3.2. Business documentation is reviewed and inspections are conducted to confirm that facilities and equipment design and components comply with regulatory and business standards</p> <p>3.3. Business documentation is reviewed and inspections are conducted to confirm that operational monitoring and testing procedures and frequency meet regulatory requirements, and industry and business standards</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- interpret and apply relevant legislation, standards, codes of practice and technical specifications relating to heat treatment of foods
- identify microbiological food safety hazards that can occur in heat-treated food products
- inspect heat treatment plant and equipment to confirm that regulatory, industry and business standards are met
- apply principles of heat treatment to assess the suitability of thermal processes and related packaging and storage to achieve the food safety objective and minimise the risk of post-processing contamination
- review workplace records and other documentation to verify that the food safety program relating to heat treatment and related processes is being implemented according to the prescribed process
- review evidence used by the business to validate the food safety control process
- confirm methods and evidence used to evaluate the capacity of equipment, processing method and packaging form to deliver heat distribution and heat penetration requirements

Required knowledge

Knowledge of:

- regulations, codes of practice, guidelines, technical specifications and where appropriate, specific product heat treatment requirements and Australian standards relating to heat treatment of foods
- target organisms that can occur in heat-treated foods and related survival and growth characteristics
- principles of heat treatment and application of heat-processing methods to product types
- criteria used to specify and evaluate heat treatment for each heat processing method
- factors that impact on heat distribution and heat penetration according to heat-processing method
- principles of operation of commercial heat-processing equipment, including equipment features required to meet regulatory requirements and critical factors to be controlled to ensure delivery of prescribed heat treatment and related processes
- procedural safeguards used to track processing of product
- principles of packaging to form a suitable seal and impact of packaging system and heat treatment methods and equipment on process effectiveness and packaging integrity

REQUIRED SKILLS AND KNOWLEDGE

- characteristics of raw materials and pre-processing requirements that impact on the microbiological profile and need to be considered in determining the thermal process
- post-processing packaging and handling that impact on the ability to maintain the food safety objective following thermal processing, and related prerequisite programs required to support effectiveness of heat treatment processes
- food safety risks and controls to avoid post-process contamination of heat-treated product
- principles of sampling requirements and test methods to confirm equipment integrity, effectiveness of heat treatment, packaging system and seal integrity and post-processing conditions to meet regulatory, industry and business standards

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence that they can verify food safety programs involving heat treatment processes to meet regulatory, industry and business standards. They must also demonstrate capacity to confirm that appropriate validation has occurred.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p> <p>Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Assessment must confirm that the candidate can:</p> <ul style="list-style-type: none"> • identify product-specific risks and typical processing methods for a range of products, including sources of information on heat treatment requirements • participate in audits of HACCP-based food safety programs to demonstrate ability and knowledge of technical aspects of heat treatment processes. <p>Assessment must include the demonstration of appropriate methods, including the use of time temperature indicators (TTIs) to measure the effectiveness of a range of heat treatment. Related processes, such as evaluation of raw materials, sterilisation of packaging and equipment (relevant to aseptic systems) and post-process handling, will be considered where they directly impact on the effectiveness of heat treatment.</p> <p>Assessment requires participation in at least two audits of different heat treatment processes. For given scenarios where prescribed processing requirements are not met, assess adequacy of evidence used to determine response procedures.</p>
<p>Context of and specific resources for assessment</p>	<p>Competency may be assessed in an actual workplace or simulated environment that provides access to the required resources. At least one of the audit scenarios should be assessed in an actual workplace context.</p> <p>Assessment is to occur under standard and authorised work practices, safety requirements and environmental</p>

EVIDENCE GUIDE	
	<p>constraints.</p> <p>The following resources must be available:</p> <ul style="list-style-type: none"> • food safety plans covering heat treatment processes • food safety-related documentation typical of commercial manufacturing businesses and used for the purpose of verification • evidence and documentation relevant to heat treatment processes that would typically be used by commercial manufacturing businesses to support validation processes • plant and equipment that would typically be used in a commercial manufacturing business.
Method of assessment	<p>This unit only covers the technical skills and knowledge related to the specific area of risk. Generic food safety auditing skills and knowledge are covered in prerequisite units. While participation in audit processes should follow good auditing practice as specified by prerequisite units, formal assessment of generic food safety auditing competence does not need to be repeated when assessing this unit.</p> <p>The following assessment methods should be considered to gather sufficient and valid evidence of competency:</p> <ul style="list-style-type: none"> • observation and a report covering the audits specified in this Evidence Guide • oral and written questioning to test the level and application of underpinning knowledge • demonstration of appropriate methods, including the use of time temperature indicators (TTIs) to measure the effectiveness of a range of heat treatment. <p>The audits conducted for the purpose of assessment must be witnessed by an auditor competent to audit a heat treatment process.</p> <p>Assessment methods must satisfy the endorsed Assessment Guidelines of FDF10 Food Processing Industry Training Package.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Heat treatment processes	<p>Heat treatment processes may include:</p> <ul style="list-style-type: none"> • retorting systems • pasteurisation systems • aseptic processing and packaging systems • hot fill systems
Validation	<p>Validation refers to obtaining evidence to confirm that a HACCP-based food safety program is complete and effective and will deliver the expected food safety outcomes</p>
Validation evidence	<p>Validation evidence confirms that control measures are capable of being consistently effective and may include the application of:</p> <ul style="list-style-type: none"> • existing Australian legislative requirements • challenge tests • peer reviewed scientific papers • targeted scientific reports • validation already carried out in other jurisdictions and recognised by the responsible authority • mathematical modelling (e.g. predictive microbiology models) • industry codes of practice (where implementation by food business is verified during audits)
Verification	<p>Verification refers to methods and procedures used to carry out monitoring, including sampling and testing to provide evidence that the specifications set by relevant legislation and codes of practice continue to be met</p>
Business standards	<p>Business standards refer to standards or technical specifications set by the system owner based on</p>

RANGE STATEMENT	
	and in addition to regulatory requirements that relate specifically to food safety
Relevant legislation, standards, codes of practice and technical specifications	<p>Relevant legislation, standards, codes of practice and technical specifications relating to heat treatment requirements may include:</p> <ul style="list-style-type: none"> • relevant sections of the Australia New Zealand Food Standards Code • Validation and Verification of Heat Treatment Equipment and Processes (ANZDAC - draft) • international protocols, such as Codex Alimentarius Vol 1B - 1995 Section 2, Recommended International Code of Hygienic Practice for Low-acid and Acidified Low-acid Canned Foods, CAC/RCP, 23-1979, Rev 2 1993, App III • Australian Standard for Equipment for the Pasteurization of Milk and Other Liquid Dairy Products - Continuous-flow systems (AS 3993:2003) • AQIS Export Control (Milk and Milk Products) Orders, 2005 • code of practice for the manufacture of egg products • state and territory regulations, codes of practice and guidelines
Factors that affect heat distribution and heat penetration	<p>Factors that affect heat distribution and heat penetration may include:</p> <ul style="list-style-type: none"> • raw material characteristics, such as: <ul style="list-style-type: none"> • rheology and density • particulates and position within container • pH • heat treatment method and related equipment (process holding times and temperatures) • heating systems • packaging design
Commercial heat processing equipment	<p>Commercial heat processing equipment may include:</p> <ul style="list-style-type: none"> • pre-processing equipment • methods to achieve sterilisation of plant and packaging material (for aseptic systems)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • filling equipment • heat treatment systems using both direct and indirect heating methods • packaging systems
Packaging	<p>Packaging may include:</p> <ul style="list-style-type: none"> • cans • glass containers • aluminium and plastic semi-rigid and flexible containers • bags • composite packaging • bulk packaging
Product sealing processes	<p>Product sealing processes may include hermetic sealing in processes, such as canning, or sealing pasteurised products in cartons and other sealed containers</p>
Prerequisite programs	<p>Prerequisite programs are also referred to as support programs, such as Good Manufacturing Practice (GMP), Good Agricultural Practice (GAP) and Good Hygienic Practice (GHP).</p> <p>Pre-requisite programs can be divided into two categories:</p> <p>Infrastructure and maintenance programs. These may include:</p> <ul style="list-style-type: none"> • layout, design, construction and amenities of buildings and facilities • supplies of air, water, energy and other utilities • equipment, including sanitary design, preventative maintenance, calibration and cleaning and sanitation • support services, including waste and sewage disposal • pest control <p>Operational prerequisite programs. These may include:</p> <ul style="list-style-type: none"> • personal hygiene • measures for the prevention of cross-contamination • packaging and labelling procedures

RANGE STATEMENT	
	<ul style="list-style-type: none"> • supplier assurance • chemical storage • employee training • document control • internal audit programs • traceability programs • product integrity and security • cold chain management • inspecting and testing regimes, including analytical and microbiological testing • control of non-conforming product, processes and recall programs
Test methods	Test methods include: <ul style="list-style-type: none"> • conducting studies of process evaluation • conducting studies of equipment performance
Additional reference material	Additional reference material includes: <ul style="list-style-type: none"> • US Food and Drug Administration Guides to Inspections • US Food and Drug Administration Code of Federal Regulations. Requirements for Establishment Registration, Thermal Process Filling, and Good Manufacturing Practices for Low-Acid Canned Foods and Acidified Foods • Campden & Chorleywood Food Research Association Publications

Unit Sector(s)

Unit sector	Food safety auditing
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFAU4008A Audit manufacturing of ready-to-eat meat products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge specifies required to support a food safety audit of food safety programs relating to the manufacture of ready-to-eat meat products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to the role of a food safety auditor responsible for auditing ready-to-eat meat manufacturing processes. Audit processes would typically occur within the context of auditing a HACCP-based food safety program that defines related prerequisite program requirements.</p> <p>This unit covers raw materials receipt, processing of ready-to-eat meat products and post-processing storage and handling of product undertaken by the manufacturer of ready-to-eat meat products.</p> <p>It supports relevant legislation such as food standards contained in the Food Standards Code, Australian standards and industry codes of practice relating to validation and verification of a HACCP-based food safety program, and should be read in conjunction with these documents.</p> <p>Both regulatory and commercial audit system owners may specify additional certification requirements of auditors eligible to audit food safety programs within their system.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFAU4002A	Communicate and negotiate to conduct food safety audits
	FDFAU4003A	Conduct food safety audits
	FDFAU4004A	Identify, evaluate and control food safety hazards

Employability Skills Information

Employability skills	
	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Identify and assess food safety hazards and control options for ready-to-eat meat manufacturing and related handling processes</p>	<p>1.1. Microbiological food safety hazards that could present a risk in ready-to-eat meat products at the point of consumption are identified by type, origin and food association and assessed to determine risk level and control requirements</p> <p>1.2. Chemical food safety hazards that could present a risk in ready-to-eat meat products at the point of consumption, including toxin presence, are identified by type, origin and food association and assessed to determine risk level and control requirements</p> <p>1.3. Physical food safety hazards that present a risk in food are identified and assessed to determine control requirements</p> <p>1.4. Control requirements and methods are identified to ensure that finished, ready-to-eat meat products meet food safety objectives</p>
<p>2. Confirm that appropriate evidence supports validation of the ready-to-eat meat manufacturing process</p>	<p>2.1. Validation evidence and records are reviewed to confirm that an appropriate level of validation has been applied</p> <p>2.2. Evidence used by the business to validate the process is identified and assessed to confirm that it is credible and adequate to meet the food safety objective</p>
<p>3. Verify the food safety program for a ready-to-eat meat manufacturing process</p>	<p>3.1. System records required to support verification are identified, collected and reviewed</p> <p>3.2. Business documentation is reviewed and inspections are conducted to confirm that facilities and equipment design and components comply with regulatory and business standards</p> <p>3.3. Business documentation is reviewed and inspections are conducted to confirm that operational monitoring and testing procedures and frequency meet regulatory requirements, and industry and business standards</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- interpret and apply relevant legislation, standards, codes of practice and technical specifications relating to the manufacture of ready-to-eat meat products
- identify microbiological, chemical and physical food safety hazards associated with the manufacture of ready-to-eat meat products
- inspect plant and equipment to confirm that regulatory, industry and business standards are met
- apply principles of ready-to-eat meat manufacturing to assess the suitability of processes to ensure a safe finished product
- review workplace records and other documentation to verify that the HACCP-based food safety program relating to the meat product being manufactured is being implemented effectively
- review evidence used to validate the food safety control process

Required knowledge

Knowledge of:

- regulations, codes of practice, guidelines, technical specifications and Australian standards relating to the formulation and manufacture of ready-to-eat meat products
- sources of information on acceptable processing and related storage and handling methods and parameters for given products and target micro-organisms
- pathogens that can occur in meat products and related control methods required in manufacturing, post-processing and storage
- survival and growth characteristics of pathogens and ability of processed product to support pathogen growth
- chemicals that pose a food safety risk in meat products and related control methods
- physical sources of contamination and related control methods
- effect of raw material characteristics, such as bacterial load and temperature, and pre-processing conditions on the growth of pathogens
- prerequisite programs required to support safe manufacture of ready-to-eat meat products
- purpose, role and storage requirements of ingredients
- principles of manufacturing methods and factors that affect processing requirements
- use and effectiveness of hurdle technologies
- principles of packaging to form a suitable seal and requirements of post-processing

REQUIRED SKILLS AND KNOWLEDGE

handling and conditions to ensure safe product
--

- | |
|--|
| <ul style="list-style-type: none">• principles of operation of ready-to-eat meat product manufacturing equipment, including equipment features required to meet regulatory requirements and critical factors to be controlled to ensure safe food outcomes• indications of unacceptable product and related test requirements• principles of test methods and frequency in monitoring condition of raw materials and processing, and in confirming that final product is fit for human consumption |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competence in this unit must be able to audit manufacturing of ready-to-eat meat products.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence that they can verify manufacturing processes for a range of ready-to-eat meat products to meet regulatory, industry and business standards. They must also demonstrate capacity to confirm that appropriate validation has occurred.</p> <p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • identify product-specific risks and typical processing methods, including sources of information on processing parameters, for a range of products • participate in audits of HACCP-based food safety programs to demonstrate ability and knowledge of technical aspects of the manufacture, storage and transport of safe ready-to-eat meat products - audit scenarios must include at least one product in each of the following product categories: <ul style="list-style-type: none"> • uncooked fermented meat products, such as salami • smoked or cooked meat products, such as ham • slowly cured meat, such as prosciutto • pâté. <p>Cold ready-to-eat meat products may also have undergone further processing stages including slicing, shaving and packaging.</p> <p>Audits of product type may be conducted concurrently or separately, according to production environment.</p>
<p>Context of and specific resources for</p>	<p>Competency may be assessed in an actual workplace or</p>

EVIDENCE GUIDE	
assessment	<p>simulated environment that provides access to the required resources.</p> <p>Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints.</p> <p>The following resources must be available:</p> <ul style="list-style-type: none"> • relevant plant and equipment that would typically be used in the commercial manufacture of ready-to-eat meat products • food safety programs and related documentation • records for the purpose of verification • evidence to support validation.
Method of assessment	<p>This unit only covers the technical skills and knowledge related to the specific area of risk. Generic food safety auditing skills and knowledge are covered in prerequisite units. While participation in audit processes should follow good auditing practice as specified by prerequisite units, formal assessment of generic food safety auditing competence does not need to be repeated when assessing this unit.</p> <p>The following assessment methods should be considered to gather sufficient and valid evidence of competency:</p> <ul style="list-style-type: none"> • observation and a report covering the audits specified in this • observation by an auditor competent to audit the manufacture of ready-to-eat meat • oral and written questioning to test the level and application of underpinning knowledge • workplace example or scenario to allow verification of records for food safety to be demonstrated. <p>The audits conducted for the purpose of assessment must be witnessed by an auditor competent to audit the manufacture of ready-to-eat meat.</p> <p>Assessment methods must satisfy the endorsed Assessment Guidelines of FDF10 Food Processing Industry Training Package.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where</p>

EVIDENCE GUIDE

possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Prerequisite programs

Prerequisite programs are also referred to as support programs, such as Good Manufacturing Practice (GMP), Good Agricultural Practice (GAP) and Good Hygienic Practice (GHP).

Prerequisite programs can be divided into two categories:

Infrastructure and maintenance programs.

These may include:

- layout, design and construction of buildings and facilities
- supplies of air, water, energy and other utilities
- equipment, including sanitary design, preventative maintenance, calibration and cleaning and sanitation
- support services, including waste and sewage disposal
- pest control

Operational prerequisite programs. These may include:

- personal hygiene
- measures for the prevention of cross-contamination
- packaging and labelling procedures
- supplier assurance
- chemical storage
- employee training
- document control
- internal audit programs
- traceability and recall programs
- product integrity and security
- cold chain management
- preparation, maintenance and use of starter cultures (for fermented meat products)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • inspecting and testing regimes, including analytical and microbiological testing • control of non-conforming product, processes and facilities • animal welfare
Manufacturing and related handling and storage processes	<p>Manufacturing and related handling and storage processes to control food safety include:</p> <ul style="list-style-type: none"> • heat treatment • fermentation and maturation • use of starter cultures • drying • cold storage • salting and other water activity related controls (e.g. hot smoking) • chemical additives to control water activity, pH and/or preservation (e.g. glucono-delta-lactone (GdL) and liquid smoke)
Microbiological food safety hazards	<p>Microbiological food safety hazards that commonly occur in ready-to-eat meats include:</p> <ul style="list-style-type: none"> • bacteria: <ul style="list-style-type: none"> • <i>Campylobacter jejuni</i> (poultry) • pathogenic <i>Escherichia coli</i>, including enterohaemorrhagic <i>Escherichia coli</i> • <i>Clostridium perfringens</i> and <i>C. botulinum</i> • <i>Listeria monocytogenes</i> • <i>Salmonella</i> spp • <i>Staphylococcus aureus</i> • <i>Yersinia enterocolitica</i> • viruses • moulds and fungi • parasites • algae
Ready-to-eat meat products	<p>Ready-to-eat meat products refer to meat products intended to be consumed without further heating or cooking and include:</p> <ul style="list-style-type: none"> • cooked, heat-treated or uncooked fermented meat, including cooked fermented meats (CFM), uncooked comminuted fermented meat (UCFM) and other salami-type products

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pÃ¢tÃ© • dried meat • slow cured meat • luncheon sausage meat, including processed and manufactured • cooked muscle meat, including ham and roast beef • other ready-to-eat meat that is susceptible to the growth of pathogens or the production of toxins
Chemical food safety hazards	<p>Chemical food safety hazards include:</p> <ul style="list-style-type: none"> • cleaning chemicals • pesticides • veterinary residues • chemical additives and levels • allergenic substances • toxic metals • nitrites, nitrates and N-nitroso compounds and levels • polychlorinated biphenyls (PCBs) • plasticisers and packaging migration
Physical food safety hazards	<p>Physical food safety hazards refer to objects not normally found in food that may cause illness or injury to the consumer, such as fragments of:</p> <ul style="list-style-type: none"> • bone • glass • metal • plastic • wood
Validation	<p>Validation refers to obtaining evidence to confirm that a HACCP-based food safety program is complete and effective and will deliver the expected food safety outcomes</p>
Validation evidence	<p>Validation evidence confirms that control measures are capable of being consistently effective and may include:</p> <p>the application of:</p> <ul style="list-style-type: none"> • existing Australian legislative requirements • challenge tests

RANGE STATEMENT	
	<ul style="list-style-type: none"> • peer-reviewed scientific papers • targeted scientific reports • validation already carried out in other jurisdictions and recognised by the responsible authority • mathematical modelling (e.g. predictive microbiology models) • industry codes of practice (where implementation by food business is verified during audits)
Verification	Verification refers to methods and procedures used to carry out monitoring, including sampling and testing to provide evidence that the specifications set by relevant legislation and codes of practice continue to be met
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • fermentation rooms • filling machines • drying and maturation rooms • mixers and blenders • tumblers • cookers • injectors • mincing machines and slicers or dice machines • conveyors • packaging machines • cooking utensils and knives • equipment used for the purpose of conducting analytical tests
Business standards	Business standards refer to standards or technical specifications set by the system owner based on and in addition to regulatory requirements that relate specifically to food safety
Relevant legislation, standards, codes of practice and technical specifications	<p>Relevant legislation, standards, codes of practice and technical specifications relating to requirements of ready-to-eat meat manufacture may include:</p> <ul style="list-style-type: none"> • relevant sections of the Australia New Zealand Food Standards Code • relevant Australian standards, including the

RANGE STATEMENT	
	<p>Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption (AS 4696:2002)</p> <ul style="list-style-type: none"> • Australia Export Control Act, 1982 • AQIS Export Control (Meat and Meat Products) Orders, 2005 • international protocols, such as those of the Codex Alimentarius Commission • customer food safety requirements, including intended use • state or territory regulations, codes of practice and guidelines
Hurdle technologies	Hurdle technologies refer to the application of a combination of different processing methods or techniques or treatments to achieve safe food outcomes
Test methods	<p>Test methods include methods used to measure:</p> <ul style="list-style-type: none"> • <i>E. coli</i>, <i>Salmonella</i>, coagulase positive staphylococci, <i>Listeria monocytogenes</i> in raw materials and final product • pH • time and temperature of: <ul style="list-style-type: none"> • fermentation • maturation or drying • smoking • cooking or heating • weight loss or water activity
Packaging	<p>Packaging refers to:</p> <ul style="list-style-type: none"> • controlled atmosphere (CA) packaging • modified atmosphere (MA) packaging
Ingredients	<p>Ingredients must comply with the requirements described in the Food Standards Code and may include:</p> <ul style="list-style-type: none"> • raw materials (meat) • starter cultures • preservatives (e.g. sodium chloride and sulphites) • water

RANGE STATEMENT	
	<ul style="list-style-type: none"> • sodium and potassium nitrate and/or nitrite • nitrate • spices • binders • water and ice • phosphates and other additives
Additional reference material	Additional reference material includes guidelines for safe manufacture of smallgoods, Meat and Livestock Australia Ltd, September 2003

Unit Sector(s)

Unit sector	Food safety auditing
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFBK2001A Operate a cooling and slicing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a process to cool and slice cake. This unit applies to the cutting of cake following baking on a band or belt. It is not relevant for manual cutting of cake baked in a tin or pan.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a cake production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to cool and slice cake.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the cooling and cutting equipment and process for operation</p>	<p>1.1. Baked cake is confirmed and available to meet production requirements</p> <p>1.2. Cleaning and maintenance requirements and status is identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are selected as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the cooling and cutting process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that cake temperature and cut pieces meet specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify cooling and cutting requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting knife condition to identify any signs of wear, selecting appropriate settings to meet cake dimension requirements, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm settings, including:
 - conveyor speed
 - cooling tunnel settings
 - guides
 - knife position
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - cake temperature - temperature gauges
 - throughput
 - cut cake appearance, dimensions and weight
 - knife position and condition
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- demonstrate batch/product changeovers
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as

REQUIRED SKILLS AND KNOWLEDGE

specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge***Knowledge of:***

- purpose and basic principles of the process
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- procedures to replace rotary knives
- the flow of the cooling and slicing process and the effect of outputs on downstream processes
- outcomes to be achieved by the cooling and cutting process, including the required temperature range for cake types and the scope to adjust product length to achieve a given weight
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, such as the effect of ambient temperature on the cooling process, the possible cause of condensation formation on product from the cooling tunnel, and corrective action required
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including risks associated with working with refrigerant and action required in the event of a leak
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for cooling and slicing cake
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- cooling tunnels, cutting equipment and related equipment and services
- baked cake on a belt or band
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with other core units or other units of competency relevant to the work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Equipment	<p>Equipment typically includes:</p> <ul style="list-style-type: none"> conveyors cooling tunnels rotary and guillotine knives
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples

RANGE STATEMENT

	include: <ul style="list-style-type: none"> • power • compressed and instrumentation air
--	--

Unit Sector(s)

Unit sector	Baking
--------------------	--------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFBK2002A Operate a pastry forming and filling process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a process to deposit fillings into a pastry shell or onto a pastry sheet which is then topped or formed to product specifications.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a production baking environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a pastry forming and filling process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the pastry forming and filling equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the pastry forming and filling process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that specifications are met</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. work is conducted according to workplace environmental standards</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the pastry forming and filling process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify pastry forming and filling processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including the transfer of fillings and pastry to the production line to meet production requirements
- confirm condition of materials, including confirming that pastry types and fillings match product specifications; and that tin spray, water and egg yolk spray are available as required
- determine if rework pastry is suitable for use
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for pastry forming and filling processing requirements, positioning sensors and controls correctly, confirming any scheduled maintenance has been carried out, ensuring that all safety guards are in place and operational, and trays are available and positioned
- start, operate, monitor and adjust pastry forming and filling process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - pastry thickness
 - alignment of deposited filling in relation to pastry sheet or shell
 - amount and/or rate of filling deposited
 - product weight
 - enclosure of pastry product by forming, rolling or covering with a pastry top
 - application of toppings/finishes as required
 - appearance (size and shape)
- monitor supply and flow of materials to and from the pastry forming and filling process and equipment operation to confirm process remains within specification
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take pastry forming and filling process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers

REQUIRED SKILLS AND KNOWLEDGE

- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the pastry forming and filling process
- basic operating principles of equipment, including main equipment components and attachments, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- how to select and fit appropriate filler heads and/or finishing attachments
- services required and action to take if services are not available
- the flow of the pastry forming and filling process and the effect of outputs on customer satisfaction and downstream processes, such as freezing or baking
- quality requirements of materials/ingredients and effect of variation on pastry forming and filling process performance
- quality standards required of the filled product
- pastry forming and filling process specifications, procedures and operating parameters, including procedures for preparing fillings, operating the depositing process, and operating closing (lidding) and finishing as required by product specifications
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including recognition of signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the pastry forming and filling production process, including inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the pastry forming and filling process and corrective action required
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including an awareness of the limitations of protective clothing and equipment relevant to the pastry

REQUIRED SKILLS AND KNOWLEDGE

forming and filling process

- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- pastry forming and filling process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for pastry forming and filling • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • specifications, control points and processing parameters • production schedule and recipe/batch instructions • pastry forming and filling process and related equipment and services • filling ingredients and pastry to be filled and/or formed • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • filling, depositing, forming and weighing equipment • various sized and shaped trays and tins • rework bins in line hoppers <p>Specific conveyor line attachments depend on product types and may include:</p> <ul style="list-style-type: none"> • spike rollers and cutters <p>Weighing and measuring equipment may include:</p> <ul style="list-style-type: none"> • both manual and automated systems <p>Finishing attachments may be used, such as:</p> <ul style="list-style-type: none"> • shakers and topping equipment

RANGE STATEMENT	
Fillings	Fillings may be: <ul style="list-style-type: none"> • sweet or savoury • hot or cold
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Baking
--------------------	--------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFBK2003A Manufacture rye crisp breads

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the rye crisp breads manufacturing process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a crisp bread production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used in a crisp bread manufacturing process.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the rye crisp breads manufacturing equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the rye crisp breads manufacturing process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that rye crisp breads specifications are met</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the rye crisp breads manufacturing process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify rye crisp breads manufacturing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including confirming slurry quality, quantity, temperature and degree of aeration
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm settings, including:
 - ovens and cutter settings for product type
 - web speed settings
 - depositing rate settings
 - flour (dusting) process settings
 - docking roller adjusted for product type
- start, operate, monitor and adjust rye crisp breads manufacturing equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification and ensuring that system has reached specified temperature, such as:
 - slurry volume, weight and density
 - biscuit size (width, length and thickness)
 - biscuit texture, colour and weight
 - biscuit moisture level
 - clean, even break/cut
- monitor supply and flow of materials to and from the rye crisp breads manufacturing process
- take corrective action in response to out-of-specification results
- conduct batch/product changeovers
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take the rye crisp breads manufacturing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility

REQUIRED SKILLS AND KNOWLEDGE

- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- take samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each stage of the rye crisp breads manufacturing process
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the rye crisp breads manufacturing process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the rye crisp breads manufacturing process
- quality requirements of materials and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- effect of slurry temperature on its ability to hold air
- effect of docking roller on baking process
- changes which occur in product during processing
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the rye crisp breads manufacturing process, including inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the rye crisp breads manufacturing process and related control measures
- product/process changeover procedures and responsibilities
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the rye crisp breads manufacturing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power

REQUIRED SKILLS AND KNOWLEDGE

- outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the rye crisp breads manufacturing process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for crisp bread production • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety and environmental requirements • information on equipment capacity and operating parameters • production schedule and recipe/batch instructions • depositing, baking, cutting, stacking and related equipment and services • specifications, control points and processing parameters • dough/mix and slurry to meet production requirements • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • depositing, baking and cutting (revolving saws) • stacking equipment
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples

RANGE STATEMENT

	include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air
--	--

Unit Sector(s)

Unit sector	Baking
--------------------	--------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFBK2004A Manufacture wafer products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the wafer products manufacturing process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a wafer production environment. It typically targets the production worker responsible for applying basic operating principles the operation and monitoring of machines and equipment used in wafer manufacturing.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the wafer process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the wafer process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that wafer products meet specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the wafer process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify wafer production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including confirming quality, quantity and temperature of batter
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- ensure correct batter is supplied and confirm settings, including:
 - wafer plates are selected for product type
 - oven settings for product type
 - web/chain speed settings
 - depositing rate settings
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - wafer size (width, length and thickness)
 - wafer texture, colour and weight
 - wafer moisture level
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- conduct batch/product changeovers
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- shut down equipment in response to an emergency situation
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- take samples and conduct tests according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking

advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each stage of the wafer manufacturing process
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the wafer manufacturing process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the wafer manufacturing process
- quality requirements of materials and effect of variation on wafer manufacturing process performance
- changes which occur in product during processing
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the wafer manufacturing process, including inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the wafer manufacturing process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the wafer manufacturing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the wafer manufacturing process, including waste/rework collection and handling procedures related to the process

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• cleaning and sanitation procedures where relevant• sampling and testing associated with process monitoring and control where relevant• routine maintenance requirements and procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for wafer production • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule and recipe/batch instructions • depositing, baking and related equipment and services • specifications, control points and processing parameters • batter to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • depositing and baking equipment • wafer plates
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p>

RANGE STATEMENT

	<ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air
--	---

Unit Sector(s)

Unit sector	Baking
--------------------	--------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFBK2005A Operate a doughnut making process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the doughnut manufacturing process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a production baking environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a doughnut making process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the doughnut manufacturing equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the doughnut manufacturing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to workplace environmental standards 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the doughnut manufacturing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify doughnut manufacturing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm condition of materials, including confirming flour and water temperature, flour type and oil type
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- conduct pre-start checks for equipment, including:
 - doughnut mixing and forming equipment
 - deep frying equipment
 - cooling tunnels/spirals
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring:
 - materials transfer prior to commencing mixing
 - mixing parameters, such as water and flour temperature, sequence of ingredient addition and mixing times
 - forming parameters, including air pressure to maintain weight of doughnut
 - proving parameters, such as humidity/temperature within prover and time
 - frying parameters, such as oil temperature, appearance of cooked doughnuts and time
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- operating finishing/filling equipment according to enterprise procedures, including preparing decorating ingredients, such as mixing and heating, crushing, cutting or

REQUIRED SKILLS AND KNOWLEDGE

sieving toppings

- monitor temperature of toppings, spread/application of toppings and glazes, jam/filling placement and quantity and appearance of finished product
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the doughnut manufacturing process, including the stages in doughnut manufacture (e.g. mixing, proving, frying and finishing) and the requirements of each processing stage (e.g. the relationship between temperature, time and humidity in the proving process)
- the role of main ingredients, such as yeast
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the doughnut manufacturing process and the effect of outputs on customer satisfaction and downstream processes, such as packaging
- quality requirements of materials and effect of variation on doughnut manufacturing process performance
- quality characteristics to be achieved by the finished doughnut
- process specifications, procedures and operating parameters, including procedures for adjusting water temperature to compensate for atmospheric conditions
- operating requirements and parameters and corrective action required where results are out-of-specification operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the doughnut manufacturing process, including inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the doughnut manufacturing process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including limitations of

REQUIRED SKILLS AND KNOWLEDGE

- protective clothing and equipment relevant to the doughnut manufacturing process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the doughnut manufacturing process, including waste/rework collection and handling procedures related to the process
- finishing requirements, where relevant, including preparation methods, monitoring of parameters, such as icing temperature, operating procedures for application of finishings and quality requirements, such as even coverage
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for making doughnuts
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule and recipe/batch instructions
- specifications, control points and processing parameters
- doughnut mixing, forming, proving, injecting and frying equipment, and related equipment as required, such as glazing and topping application equipment
- doughnut ingredients and related materials, such as frying oil and glazing/toppings and fillings as required
- sampling schedules and test procedures and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Doughnuts	Doughnut types may include: <ul style="list-style-type: none"> hole doughnuts and jam injected doughnuts Doughnut may be: <ul style="list-style-type: none"> glazed or covered with topping
Materials	Materials typically include: <ul style="list-style-type: none"> flour yeast water ice oil glazes toppings

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pre-mixes
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • scales • mixers • hoppers • forming equipment • cutters or injectors • gas or electric frying equipment • provers • enrobers and other glazing and equipment, such as cooling tunnels or spirals <p>Specific conveyor line attachments depend on product types</p>
Weighing and measuring	Weighing and measuring may be automated or done manually
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Baking
--------------------	--------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFBK2006A Operate a griddle production process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a griddle production process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a production baking environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a griddle production process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the griddle product manufacturing equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the griddle product manufacturing process</p>	<p>2.1. The griddle product manufacturing process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that the mix is prepared, formed and cooked to specification</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted according to environmental standards</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the griddle product manufacturing process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm condition and quantities of ingredients required, including weighing or confirming ingredient weights
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, confirming that all safety guards are in place and operational, and determining accuracy of scales
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring:
 - materials transfer prior to commencing mixing
 - mixing parameters, water temperature, sequence of ingredient addition, mixing times and mix consistency
 - depositing parameters to achieve product size and weight, such as monitoring levels of mixture in hopper and alignment/position of deposited mixture
 - griddle line equipment, such as monitoring temperature of cooking surface; size, shape and colour of product; and moisture content of product
 - cooling equipment and time
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as

REQUIRED SKILLS AND KNOWLEDGE

specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of griddle product manufacturing
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the griddle production process and the effect of outputs on customer satisfaction and downstream processes
- quality requirements of materials and effect of variation on process performance
- quality characteristics to be achieved by griddle products
- griddle product manufacturing process specifications, procedures and operating parameters
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the griddle product manufacturing process
- requirements of different shutdowns as appropriate to the griddle product manufacturing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for griddle production • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule and recipe/batch instructions • specifications, control points and processing parameters • griddle line and related equipment and services • ingredients to produce griddle product • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	<p>other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Griddle product	<p>Griddle product types may include:</p> <ul style="list-style-type: none"> • crumpets and pikelets
Materials	<p>Materials typically used may include:</p> <ul style="list-style-type: none"> • flour • water • eggs • sugar • yeast • flavourings and colourings • spices and other additives
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • weighing, mixing, depositing and cooking

RANGE STATEMENT	
	<p>equipment</p> <ul style="list-style-type: none"> cooling fans/tunnels and extraction fans <p>Weighing and measuring equipment may include:</p> <ul style="list-style-type: none"> manual and automated systems <p>Specific conveyor line attachments depend on product types</p>
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Baking
--------------------	--------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFBK2007A Operate a pastry production process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a pastry production process. This includes mixing and sheeting or layering processes.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a production baking environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a pastry production process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the pastry manufacturing equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Materials are weighed/loaded to meet production requirements 1.3. Cleaning and maintenance requirements and status are identified and confirmed 1.4. Services are confirmed as available and ready for operation 1.5. Equipment performance is checked and adjusted as required 1.6. The process is set to meet production requirements
2. Operate and monitor the pastry manufacturing process	2.1. The pastry manufacturing process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that dough mixing, rolling and laminating specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental standards 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the pastry manufacturing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify pastry manufacturing processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, such as flour and fat
- select ingredients in accordance with recipe specifications
- confirm condition and quality of ingredients
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for pastry manufacturing processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, confirming that all safety guards are in place and operational, and positioning rework bins
- start, operate, monitor and adjust pastry manufacturing process equipment to achieve required outcomes, such as setting up and starting up mixers, rollers and laminating processes to meet production requirements
- monitor control points and conduct inspections as required to confirm process remains within specification
- monitor supply and flow of materials to and from the dough preparation process and equipment operation to confirm process remains within specification, such as:
 - flour temperature and type
 - water temperature
 - fat type, distribution and percentage as required for specific pastry types
 - rework pastry addition
 - dough characteristics
 - mixing time
- roll and laminate dough to specification, including ensuring in-line hoppers are filled with flour to prevent pastry sticking to rollers, roller settings are within specification, and checking pastry thickness, fat percentage and the number of pastry layers
- monitor supply and flow of materials to and from the laminating process and equipment operation to confirm process remains within specification
- cut and stack or roll pastry according to production requirements
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility

REQUIRED SKILLS AND KNOWLEDGE

- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take pastry manufacturing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- demonstrate batch/product changeovers according to enterprise procedures (may not apply to some continuous operations)
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the pastry manufacturing process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the pastry manufacturing process and the effect of outputs on customer satisfaction and downstream processes such as filling, forming and baking
- quality requirements of materials/ingredients and effect of variation on pastry manufacturing process performance
- quality standards required of the finished pastry
- pastry manufacturing process specifications, procedures and operating parameters, including preparing dough, laminating, rolling, and cutting and stacking of pastry
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the pastry manufacturing production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the pastry manufacturing process and related control measures
- common causes of variation and corrective action required, including the

REQUIRED SKILLS AND KNOWLEDGE

- relationships between time and temperature and humidity in the pastry manufacturing process
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the pastry manufacturing process
- requirements of different shutdowns as appropriate to the pastry manufacturing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the pastry manufacturing process
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- pastry manufacturing process changeover procedures and responsibilities where relevant
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on equipment used for pastry production • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule and recipe/batch instructions • specifications, control points and processing parameters • pastry manufacturing process and related equipment and services • pastry ingredients • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Pastry	<p>Pastry types may include:</p> <ul style="list-style-type: none"> • top and bottom pastry • sweet or savoury pastry
Pastry ingredients	<p>Pastry ingredients typically include:</p> <ul style="list-style-type: none"> • flour • water • ice • fat (animal or vegetable) • salt • baking powder • pre-mixes • melinta

RANGE STATEMENT	
	<ul style="list-style-type: none"> • metrex • sodium propate • rework pastry • sugar and yeast
Ingredient transfer and loading	<p>Ingredient transfer and loading may involve:</p> <ul style="list-style-type: none"> • use of bulk materials handling equipment <p>It is typically partly or fully automated and may involve manual addition of some ingredients</p>
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • weighing, mixing, laminating/rolling, cutting and stacking, and testing equipment <p>Weighing and measuring equipment may include:</p> <ul style="list-style-type: none"> • manual and automated systems <p>Conveyor line attachments depend on product types and may include:</p> <ul style="list-style-type: none"> • spike rollers and cutters
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water, • compressed and instrumentation air

Unit Sector(s)

Unit sector	Baking
--------------------	--------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFBP2001A Operate the bottle supply process

Modification History

This unit supersedes and is equivalent to FDFBPBSUA Operate the bottle supply process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated bottling and packaging equipment involved in the bottle supply process.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a bottle supply process and associated equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate bottle supply equipment	1.1 Product and materials are confirmed and available to meet bottle supply requirements 1.2 Product and materials are prepared to meet bottle supply requirements 1.3 Services are confirmed as available and ready for operation 1.4 Bottle supply equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet bottle supply requirements
2. Operate and monitor the bottle supply process	2.1 Bottle supply equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Bottles are supplied according to specification 2.4 Bottle supply equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down the bottle supply process	3.1 Bottle supply equipment is shut down according to workplace procedures 3.2 Bottle supply equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify bottle supply requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include:
 - confirming gas, compressed air, filtered water and power are available to equipment
 - checking bottles meet size and type specification and quality and hygiene standards
- liaise with other work areas, which may include:
 - maintenance personnel
 - quality assurance personnel
 - materials supply
 - cellar
 - bottle filling operators
 - bottle sealing operators
 - bottle capsuling operators
 - labelling operators
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - stripping plates, rubber (pickup) cups and guides are clean and operational
 - any adjacent coding equipment is set up and operational
 - line controls (conveyors) are operational
 - line lube is operational and being correctly applied
 - electronic bottle inspector is set up and operational
 - all equipment is set for correct bottle height
 - water filters and ultraviolet (UV) sterilising system are operational
 - bottle feeds are filled with correct screws and stars and accurately aligned
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - gas and compressed air pressures
 - ongoing quality of bottles during depalletising process
 - for efficiency of all rinser cycles
 - ongoing quality and appearance of bottles after rinsing
 - for excessive pressure (blockage) at water filtration
 - to ensure UV lamps do not fail or exceed prescribed usage limits
 - levels and faults of bottles ejected by the electronic bottle inspector
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation

- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- clean and sanitise equipment according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- handle spirits according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of bottle supply equipment
- key features of bottle supply equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls

- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirements for waste generated by process and cleaning operation
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant
- spirit handling requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for bottle supply • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • depalletisers • rinsers • water filters • UV sterilising systems • electronic bottle inspection (EBI)
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • bottles (any size) for still wine, sparkling wine, fortified wine, spirits and related drink products
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • water • inert gas • steam • vacuum
Monitoring	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points

RANGE STATEMENT	
	<ul style="list-style-type: none">inspection points
Information systems	Information systems may be: <ul style="list-style-type: none">print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFBP2002A Operate the carton erection process

Modification History

This unit supersedes and is equivalent to FDFBPCEPA Operate the carton erection process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated bottling and packaging equipment involved in the carton erection process.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a carton erection process and associated equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate carton erection equipment	1.1 Product and materials are confirmed and available to meet carton erection requirements 1.2 Product and materials are prepared to meet carton erection requirements 1.3 Services are confirmed as available and ready for operation 1.4 Carton erection equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet carton erection requirements
2. Operate and monitor the carton erection process	2.1 Carton erection equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Cartons are erected according to specification 2.4 Carton erection equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down the carton erection process	3.1 Carton erection equipment is shut down according to workplace procedures 3.2 Carton erection equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify carton erection requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include:
 - confirming compressed air, power and vacuum are available to equipment
 - checking cartons and inserts meet size and type specification and quality and hygiene standards
- liaise with other work areas which may include:
 - maintenance personnel
 - quality assurance personnel
 - materials supply
 - cellar
 - bottle filling operators
 - labelling operators
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - carton magazines and guides are operational
 - insert magazines and guides are operational
 - any adjacent coding equipment is set up and operational
 - line controls (conveyors) are operational
 - line lube is operational and being correctly applied
 - all hotmelt guns or jets are operational
 - equipment is set for correct carton dimensions
 - vacuum pump is operational
 - carton feeds are set up and accurately aligned for 6 or 12 pack cartons
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - compressed air pressure
 - vacuum pressure
 - hotmelt units are maintained at correct wax level
 - supply and quality of cartons to be erected
 - supply and quality of inserts being used
 - vacuum cups are picking up properly
 - hot glue strokes are correct length and producing a firm seal
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include

- removing product or consumables from the line
- prepare equipment for cleaning. This may involve dismantling equipment and removing waste manually
- record workplace information
- maintain work area to meet housekeeping standards
- clean equipment according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- handle spirits according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of the carton erection equipment
- key features of carton erection equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence

- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirements for waste generated by process and cleaning operation
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant
- spirit handling requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for carton erection • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company

EVIDENCE GUIDE	
	<p>practices, safe work practices, food safety, quality and environmental requirements</p> <ul style="list-style-type: none"> • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include a range of carton erection machinery, such as:</p> <ul style="list-style-type: none"> • erectors • inserters • conveyor carton diverters • hotmelts • carton over packers and sealers
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • pre-formed cartons or carton blanks and carton inserts to accommodate bottles and softpacks(any size) for still wine, sparkling wine, fortified wine, spirits and related drink products
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • vacuum
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points

RANGE STATEMENT**Information systems**

Information systems may be:

- print or screen based

-

Unit Sector(s)**Unit sector**

Wine operations

Custom Content Section

Not applicable.

FDFBP2003A Operate the carton packing process

Modification History

This unit supersedes and is equivalent to FDFBPCPPA Operate the carton packing process. April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated bottling and packaging equipment involved in the carton packing process.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a carton packing process and associated equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate carton packing equipment	1.1 Product and materials are confirmed and available to meet carton packing requirements 1.2 Product and materials are prepared to meet carton packing requirements 1.3 Services are confirmed as available and ready for operation 1.4 Carton packing equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet carton packing requirements
2. Operate and monitor the carton packing process	2.1 Carton packing equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Cartons are packed according to specification 2.4 Carton packing equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down the carton packing process	3.1 Carton packing equipment is shut down according to workplace procedures 3.2 Carton packing equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify carton packing requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including:
 - checking product to be packed meets specification
 - checking bottles and cartons used meet size and type specification and quality and hygiene standards
 - confirming compressed air, power and vacuum, if required, are available to equipment
- liaise with other work areas, which may include:
 - maintenance personnel
 - quality assurance personnel
 - materials supply
 - cellar
 - bottle or softpack filling operators
 - labelling operators
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - multi-lane bottle diverters on infeed conveyors are operational
 - vacuum is operational
 - any adjacent coding equipment is set up and operational
 - line controls (conveyors) are operational
 - line lube is operational and being correctly applied
 - all hotmelt guns or jets are operational
 - equipment is set for correct carton, cask and bottle dimensions
 - check weigher is operational
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - compressed air pressure
 - vacuum pressure
 - hotmelt units are maintained at correct adhesive level
 - the ongoing supply and quality of product to be packed
 - the ongoing quality and appearance of product once packed and sealed
 - vacuum cups are picking up properly
 - hot glue strokes are correct length and producing a firm seal
 - check weigher is rejecting underweight (short supplied) cartons
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include

- removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- clean and sanitise equipment according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- handle spirits according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of carton packing equipment
- key features of carton packing equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence

- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirements for waste generated by process and cleaning operation
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant
- spirit handling requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for carton packing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company

EVIDENCE GUIDE	
	<p>practices, safe work practices, food safety, quality and environmental requirements</p> <ul style="list-style-type: none"> • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include a range of carton packing machinery, such as:</p> <ul style="list-style-type: none"> • drop, wrap, cluster and place packers • multi-lane bottle diverters on infeed conveyors • check weighers • sealers and hotmelt units
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • cartons, and bottles and softpacks (any size) of still wine, sparkling wine, fortified wine, spirits and related drink products
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • water • vacuum
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p>

RANGE STATEMENT

- print or screen based

Unit Sector(s)**Unit sector**

Wine operations

Custom Content Section

Not applicable.

FDFBP2004A Operate the bottle sealing process

Modification History

This unit supersedes and is equivalent to FDFBPBSEA Operate the bottle sealing process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated bottling and packaging equipment involved in the bottle sealing process.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a bottle sealing process and associated equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate bottle sealing equipment	1.1 Product and materials are confirmed and available to meet bottle sealing requirements 1.2 Product and materials are prepared to meet bottle sealing requirements 1.3 Services are confirmed as available and ready for operation 1.4 Bottle sealing equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet bottle sealing requirements
2. Operate and monitor the bottle sealing process	2.1 Bottle sealing equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Bottles are sealed according to specification 2.4 Bottle sealing equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down the bottle sealing process	3.1 Bottle sealing equipment is shut down according to workplace procedures 3.2 Bottle sealing equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify bottle sealing requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include:
 - checking sealing materials meet workplace specifications
 - confirming gas, compressed air, water and power are available to equipment
- liaise with other work areas, which may include:
 - maintenance personnel
 - materials supply
 - cellar
 - bottle supply operators
 - bottle filling operators
 - bottle capsuling operators
 - labelling operators
 - quality assurance personnel
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - magazine, hoppers, chutes and guides are operational
 - any adjacent coding equipment is set up and operational
 - line controls (conveyors) are operational
 - line lube is operational and being correctly applied
 - torque testers are correctly calibrated
 - equipment is set for correct bottle height
 - vacuum pump is operational
 - vacuum block and corker jaws are correctly lubricated
 - bottle feeds are filled with correct screws and stars and accurately aligned
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - compressed air pressure
 - torque on Roll On Tamper Evident (ROTE) seals
 - cork depths as established by the workplace
 - effective seal on crown seals
 - correct vacuum is being applied to head space in bottle
 - consistent application of wire muselet
 - clarity of wine in bottles being sealed
 - the ongoing quality and appearance of sealing application
 - the ongoing quality of materials used in the sealing process
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance

- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- clean and sanitise equipment externally according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- handle spirits according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of bottle sealing equipment
- key features of bottle sealing equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements

- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirement for waste generated by process and cleaning operation
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant
- spirit handling requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for bottle sealing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as

EVIDENCE GUIDE	
	<p>required</p> <ul style="list-style-type: none"> • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications

RANGE STATEMENT	
	<ul style="list-style-type: none"> • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may seal the product by ROTE seals, such as:</p> <ul style="list-style-type: none"> • Stelvin • corks (natural or synthetic) • cork stoppers • cork and wire muselet to maintain sterile integrity and longevity of product • crown seals for bottle primary fermentation
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • bottles (any size) for still wine, sparkling wine, fortified wine, spirits and related drink products • ROTE seals • corks (natural or synthetic) • cork stoppers • wire muselet • crown seals
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • water • inert gas • steam • vacuum
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts

RANGE STATEMENT	
Process operation and monitoring functions	Process operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. These include: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFBP2005A Operate the electronic coding process

Modification History

This unit supersedes and is equivalent to FDFBPECOA Operate the electronic coding process. April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down the electronic coding process.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a electronic coding process and associated equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate electronic coding equipment	1.1 Product and materials are confirmed and available to meet electronic coding requirements 1.2 Product and materials are prepared to meet electronic coding requirements 1.3 Services are confirmed as available and ready for operation 1.4 Electronic coding equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet coding requirements
2. Input, store and retrieve data	2.1 Data is accessed as required 2.2 Data is entered to meet coding requirements 2.3 Data is filed and/or retrieved to meet coding requirements 2.4 Security procedures are followed as required
3. Operate and monitor the electronic coding process	3.1 Electronic coding equipment is started up according to workplace procedures 3.2 Control points are monitored to confirm performance is maintained within specification 3.3 Product is coded according to specification 3.4 Electronic coding equipment is monitored to confirm operating condition 3.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
4. Shut down the electronic coding process	4.1 Electronic coding equipment is shut down according to workplace procedures 4.2 Electronic coding equipment is prepared for cleaning 4.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 4.4 Work is conducted in accordance with workplace environmental guidelines
5. Record information	5.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify electronic coding requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include:
 - checking product to be coded meets specification
 - checking coding materials (labels and ink) meet specifications
 - confirming compressed air, power and vacuum are available to equipment
- liaise with other work areas, which may include:
 - maintenance personnel
 - quality assurance personnel
 - materials supply
 - filling operators
 - labelling operators
 - depalletiser operators
 - carton erector operators
 - carton packer operators
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - all inkjet heads have been purged and are operational
 - equipment is set up for correct date and specified application
 - all related touch screens and computers are operational
 - line controls and conveyors are operational
 - vacuum pumps are operational
 - printers have been tested and are operational
 - pressure sensitive applicators are operational
 - bottle feeds are filled with correct screws and stars and accurately aligned
- set up and start up the process
- select, enter or retrieve data as required by work procedures, consistent with equipment operating advice
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - compressed air pressure

- vacuum
- appearance, quality and legibility of coding
- all coding is correct as specified
- application of bar code pressure sensitive labels is as specified
- sensors are detecting missed labels
- fill height and volume
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve dismantling equipment and removing waste manually for cleaning
- record workplace information
- maintain database according to system and workplace requirements
- maintain work area to meet housekeeping standards
- clean and sanitise equipment according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- handle spirits according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of electronic coding equipment
- key features of electronic coding equipment and components. These can include the mouse, keyboard, screen and control panel
- basic principles of data entry, storage and retrieval using information technology
- software functions, including codes, prompts and menus, as required, to perform coding tasks
- security and data management procedures

- links to related processes
- stages and changes which occur during the electronic coding process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirement for waste generated by process and cleaning operation
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant
- spirit handling requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.
Competence in this unit must be achieved in accordance

EVIDENCE GUIDE	
	with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for electronic coding • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Electronic coding	<p>Electronic coding may include:</p> <ul style="list-style-type: none"> • production data and bar coding
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • inkjet bottle coders • laser bottle coders • inkjet carton coders • print and apply (bar code) label applicators • photoelectric sensors
Information technology	<p>Information technology includes:</p> <ul style="list-style-type: none"> • a range of computer-based devices used to enter, edit, store and retrieve data in the workplace
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • bottles, softpacks, stickers and cartons (any size) of still wine, sparkling wine, fortified wine, spirits and related drink products • ink • make-up fluids • purging and cleaning solutions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • rolls of blank pressure sensitive labels for application
Data access	<p>Data access and/or entry typically involves the use of menus, prompts and codes. Equipment can include:</p> <ul style="list-style-type: none"> • use of a mouse, touch screens, keyboards and control panels
Equipment set up	<p>Setting up equipment involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met • selecting appropriate software or menus • setting up printing equipment where required • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • vacuum
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFBP2006A Operate traditional sparkling wine processes

Modification History

This unit supersedes and is equivalent to FDFBPSPGA Operate traditional sparkling wine processes.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of manual, semi-automated and automated equipment involved in the traditional sparkling wine processes of shaking, neck freezing, de-crowning, dosing and topping up.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of equipment involved in sparkling wine processes.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate traditional sparkling wine equipment	1.1 Product and materials are confirmed and available to meet the requirements of traditional sparkling wine processes 1.2 Product and materials are prepared to meet the requirements of traditional sparkling wine processes 1.3 Services are confirmed as available and ready for operation 1.4 Traditional sparkling wine equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet the requirements of traditional sparkling wine processes
2. Operate and monitor traditional sparkling wine processes	2.1 Traditional sparkling wine equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Traditional sparkling wine output meets specification 2.4 Traditional sparkling wine equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down traditional sparkling wine processes	3.1 Traditional sparkling wine equipment is shut down according to workplace procedures 3.2 Traditional sparkling wine equipment is prepared for cleaning 3.3 Waste generated by both the processes and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify the requirements of traditional sparkling wine processes
- select, fit and use appropriate personal protective clothing and/or equipment, particularly in relation to handling refrigerants and wine stored under pressure
- confirm supply of necessary materials and services. This may include checking:
 - product to be shaken down and/or disgorged meets specification
 - liqueur meets specification
 - wine for topping up meets specification
 - power, compressed air, water, inert gas, refrigerants, steam and vacuum are available to equipment
- liaise with other work areas, which may include:
 - maintenance personnel
 - materials supply
 - cellar
 - quality assurance or control personnel
 - de-binning personnel
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - automatic shaker is programmed and operational
 - bottles are correctly binned and lids secured for shaking
 - manual shaking tables are set up
 - manual or automatic de-binning is set up for operation
 - neck freezer is set up and operational
 - bottle feeds are filled with correct screws and stars and accurately aligned
 - manual or automatic de-crowner is operational
 - manual or automatic dosing equipment is set up and operational
 - manual or automatic topping-up equipment is set up and operational
 - vacuum is operational
 - refrigerant is operational
 - line controls and conveyors are operational
 - all equipment is adjusted to suit bottle height

- set up and start up the processes
- monitor the processes and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - gas and compressed air pressures
 - vacuum
 - wine to be shaken is binned and secured correctly
 - automatic bin shaker is operating to program
 - smooth flow of automatic or manual de-binning
 - all identifying markings are removed from bins once wine is transferred
 - continued supply of refrigerants
 - temperature of neck freezer
 - smooth flow of bottles through neck freezer
 - de-crowner is removing all crown seals
 - temperature of top-up wine and liqueur
 - lees plug is disgorging correctly
 - liqueur doser is delivering correct amount
 - top-up procedure meets wine level or volume requirements
- monitor supply and flow of product and materials to and from the processes
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation.
- record workplace information
- maintain work area to meet housekeeping standards
- clean and sanitise equipment according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of traditional sparkling wine equipment
- key features of traditional sparkling wine equipment and components
- links to related processes
- stages and changes which occur during the processes
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls, particularly in relation to handling refrigerants and wine stored under pressure
- routine maintenance requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirement for waste generated by processes and cleaning operation
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the

EVIDENCE GUIDE	
performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for traditional sparkling wine processes • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • manual and automatic de-binning and binning • shakers • de-crowners • disgorgers • neck freezers • liqueur dosers • topping machines • vacuum pumps • line controls • wooden or plastic bins and lids • air ratchet or handheld spanners and air tools

RANGE STATEMENT	
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • liqueur • wine • bottles • refrigerants • crown seals • wooden or plastic bins and lids • nuts, bolts or other fasteners
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • water • inert gas • refrigerants • steam • vacuum
Monitoring the processes functions	<p>Monitoring the processes may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFBP2007A Operate the tirage and transfer process

Modification History

This unit supersedes and is equivalent to FDFBPTIRA Operate the tirage and transfer process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated equipment involved in the tirage and transfer process.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a tirage and transfer process and associated equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate tirage and transfer equipment	1.1 Product and materials are confirmed and available to meet the tirage and transfer requirements 1.2 Product and materials are prepared to meet the tirage and transfer requirements 1.3 Services are confirmed as available and ready for operation 1.4 Tirage and transfer equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet tirage and transfer requirements
2. Operate and monitor the tirage and transfer process	2.1 Tirage and transfer equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Tirage and transfer output meets specification 2.4 Tirage and transfer equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down the tirage and transfer process	3.1 Tirage and transfer equipment is shut down according to workplace procedures 3.2 Tirage and transfer equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify tirage requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include checking:
 - product to be transferred (disgorged) meets specification
 - product to be filled to tirage meets specification
 - power, compressed air, water, inert gas, steam and vacuum are available to equipment
 - bottles and crown seals meet specifications
 - bins to be used meet specification
- liaise with other work areas which may include:
 - maintenance personnel
 - materials supply
 - cellar
 - quality assurance personnel
 - personnel binning and de-binning
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - filling tubes meet specification
 - bottle feeds are filled with correct screws and stars and accurately aligned
 - crown seal hopper, chutes and guides are operational
 - crown sealer is operational
 - vacuum is operational
 - rinser is operational
 - inert gas is operational
 - disgorger bottle piercing tips are straight and correctly aligned to receive bottles
 - de-crowner is operational
 - line controls and conveyors are operational
 - automatic binning and de-binning is set up for operation
 - filler, crown sealer, rinser, disgorger and de-crowner are adjusted to suit bottle height
 - lines and equipment are flushed with product to be bottled
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - gas and compressed air pressures
 - vacuum
 - product or wine base temperature
 - fill height and volume
 - ongoing appearance and quality of wine filled to tirage
 - effectiveness of crown seals in sealing wine in bottle
 - disgorger bottle piercing tips are not bent or incorrectly aligned

- ongoing disgorging is draining wine efficiently
- de-crowner is removing all crown seals
- bottles are rinsed efficiently and are suitable for filling
- vacuum and gas are being applied
- bins being filled to tirage are clearly marked as specified
- all identifying markings are removed from bins once wine is transferred
- smooth flow of automatic binning and de-binning
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of tirage and transfer equipment
- key features of tirage and transfer equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures

- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirement for waste generated by process and cleaning operation
- recording requirements and procedures
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for tirage and transfer • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and

EVIDENCE GUIDE	
	<p>inconsistencies</p> <ul style="list-style-type: none"> • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of</p>

RANGE STATEMENT	
the item, and local industry and regional contexts) may also be included.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	Equipment may include: <ul style="list-style-type: none"> • automatic de-binning and binning • de-crowners • disgorgers • vacuum pumps • rinsers • vacuum fillers • line controls • crown sealers
Products and materials	Products and materials may include: <ul style="list-style-type: none"> • bottles • crown seals • corks • base wine • wooden, metal or plastic bins
Equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	Services may include: <ul style="list-style-type: none"> • power • compressed air

RANGE STATEMENT	
	<ul style="list-style-type: none"> • water • inert gas • steam • vacuum
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	Process operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. These include: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFBP2008A Perform packaging equipment changeover

Modification History

This unit supersedes and is equivalent to FDFBPPECB Perform packaging equipment changeover.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to prepare, set up and test a multi-stage continuous packaging line.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the preparation, set up and testing of a multi-stage continuous packaging line.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to set multi-stage continuous packaging line	1.1 Components are confirmed and available to meet requirements 1.2 Appropriate hand tools are selected and used 1.3 Equipment is safe to set
2. Assemble, set and adjust multi-stage continuous packaging line	2.1 Equipment is assembled in correct sequence 2.2 Equipment components are replaced and set to meet production specifications 2.3 Services are changed as required 2.4 Packaging line is tested to meet specifications and operational requirements 2.5 Packaging line settings are adjusted to meet specifications and operational requirements
3. Complete packaging line changeover	3.1 Waste generated by the process is monitored and cleared according to workplace procedures 3.2 Unused components are stored according to workplace procedures 3.3 Work is conducted in accordance with workplace environmental guidelines 3.4 Operators are instructed as required
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary components
- liaise with other work areas, which may include:
 - maintenance personnel
 - operators
- render the equipment safe to set
- change equipment or process components in response to product change and specification. This may include:
 - label size, positioning, shape and type
 - bottle size and shape
 - carton size, type and format
 - capsule size and type
 - product type and style (e.g. still to sparkling wine)
 - closure type or size (e.g. cork to screw top)
 - pallet pattern
- select and use appropriate hand tools
- assemble equipment in correct sequence and replace, insert and/or adjust components to meet new specifications. This may include:
 - conveyor speed
 - direction and orientation of cartons or bottles
 - adding or removing carton inserters
 - glue type or change to tape
 - speed or timing of operation
 - desired temperature for glue or capsule shrinkers and bottle dryers
 - machine heights (e.g. bottle fill and label height)
 - depth of closure (cork)
 - filling pressure
 - product code changes
 - program selection
 - width or positioning of bottle guides
- change services as required. This may include:

- type of inert gas used to flush bags or bottles of cover product
- bottle rinsing method (e.g. water, alcohol or gas)
- flushing lines
- checking pressures, flow rates or quantities used per item
- test the process and equipment operation to identify out-of-specification results or non-compliance. This can involve testing:
 - label height, orientation and adhesion
 - conveyor noise and product spacing
 - carton erection, orientation and seal
 - production capacity (e.g. bottles per hour)
 - fill pressure
- make adjustments to the equipment or process in response to out-of-specification results or non-compliance. This may include adjusting:
 - stars, scrolls and bows
 - mandrels
 - filling head heights
 - label applicators
 - sighting guides
 - operational speeds
- record workplace information
- sort, collect, treat, recycle or dispose of waste according to workplace procedures
- store unused components
- instruct operators as required
- use appropriate cleaning techniques
- maintain work area to meet housekeeping standards
- carry out routine maintenance according to enterprise procedures
- operate the bottle supply, bottle filling, softpack filling, bottle sealing, bottle capsuling, labelling, carton erection, carton packing, tirage and transfer, traditional sparkling wine, electronic coding and/or palletising process according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- lock-out and tag-out procedures
- principles of quick changeover

- equipment purpose and operation, including an understanding of process control systems, where used
- process specification, procedures and operating parameters across the system
- equipment components purpose and operation
- component changes and adjustments required
- test run procedures
- control points and monitoring methods
- services required
- isolation procedures
- material specification and preparation requirements
- Occupational Health and Safety (OHS) hazards and controls
- procedures and responsibility for reporting problems
- environmental issues and control
- routine maintenance procedures where relevant
- operating procedures for bottle supply, bottle filling, softpack filling, bottle sealing, bottle capsuling, labelling, carton erection, carton packing, tirage and transfer, traditional sparkling wine, electronic coding, palletising or other related equipment where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for packaging • start, operate, test and adjust packaging equipment • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • complete product changeover.

EVIDENCE GUIDE	
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements

RANGE STATEMENT	
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment will vary according to the bottling and packaging scope of the enterprise, but may include:</p> <ul style="list-style-type: none"> • hand tools • conveyers • depalletisers • bottle rinsers • fillers • closers • cappers • dryers • labellers • carton erectors • carton printers • inserters • sealers • diverters • turners • disgorgers • wirers • de-crowners • packers • neck chillers • coders • palletisers • carton label applicators • invertors • pallet wrappers
Components	<p>Components will vary between equipment, but may include:</p> <ul style="list-style-type: none"> • stars

RANGE STATEMENT	
	<ul style="list-style-type: none"> • scrolls • bows • filling heads • label applicators • packer heads • mandrels • sighting components • bell seals • rams
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • water • steam • inert gas • conveyer lubrication • vacuum
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points.
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFBP2009A Operate the bottle capsuling process

Modification History

This unit supersedes and is equivalent to FDFBPBCAA Operate the bottle capsuling process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated bottling and packaging equipment involved in the bottle capsuling process.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to a worker required to operate the palletising process as part of their work role within the wine bottling and packaging section of an enterprise. It is designed to support the safe operation of bottle capsuling equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate bottle capsuling equipment	1.1 Product and materials are confirmed and available to meet bottle capsuling requirements 1.2 Product and materials are prepared to meet bottle capsuling requirements 1.3 Services are confirmed as available and ready for operation 1.4 Bottle capsuling equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet bottle capsuling requirements
2. Operate and monitor the bottle capsuling process	2.1 Bottle capsuling equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Bottles are capsuled according to specification 2.4 Bottle capsuling equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down the bottle capsuling process	3.1 Bottle capsuling equipment is shut down according to workplace procedures 3.2 Bottle capsuling equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify bottle capsuling requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include:
 - checking capsuling materials meet workplace specifications
 - checking bottles meet size and type specification and quality and hygiene standards
 - confirming compressed air, water and power are available to equipment
- liaise with other work areas, which may include:
 - maintenance personnel
 - materials supply
 - cellar
 - bottle supply operators
 - bottle filling operators
 - bottle sealing operators
 - labelling operators
 - quality assurance personnel
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - capsule magazines, wax disc hoppers and wax pots are operational
 - any adjacent coding equipment is set up and operational
 - line controls (conveyors) are operational
 - line lube is operational and being correctly applied
 - heat shrink settings are adjusted to suit capsule type
 - metal-spinner tension is correct for capsule type
 - equipment is set for correct bottle height
 - hotmelt for wax disc application is operational
 - bottle feeds are filled with correct screws and stars and accurately aligned
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - compressed air pressure
 - supply and quality of bottles to be capsuled

- fill heights and cork depths of bottles to be capsuled
- clarity of wine in bottles being capsuled
- ongoing quality and appearance (shrinkage and fit) of capsule application
- ongoing quality of materials used in the process
- glue application and supply to wax disc process
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation.
- record workplace information
- maintain work area to meet housekeeping standards
- clean and sanitise equipment externally according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- handle spirits according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of bottle capsuling equipment
- key features of bottle capsuling equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures

- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirement for waste generated by process and cleaning operation
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant
- spirit handling requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for bottle capsuling • start, operate, monitor and adjust process equipment

EVIDENCE GUIDE	
	<p>to achieve required quality outcomes</p> <ul style="list-style-type: none"> • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Bold italicised wording**, if used in the

RANGE STATEMENT	
performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	Equipment may capsule the product by: <ul style="list-style-type: none"> • heat shrink plastic (PVC and PET) • metal-spinning poly laminate or metal alloy capsules • wax dipping • wax discs applied to flange bottles • sparkling wine hoods
Products and materials	Products and materials may include: <ul style="list-style-type: none"> • bottles (any size) for still wine, sparkling wine, fortified wine, spirits and related drink products • heat shrink plastic (PVC and PET) • poly laminate and metal alloy capsules • wax • wax discs • sparkling wine hoods
Equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	Services may include: <ul style="list-style-type: none"> • power

RANGE STATEMENT	
	<ul style="list-style-type: none"> • compressed air • water • inert gas • steam • vacuum
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information system	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFBP2010A Operate manual bottling and packaging processes

Modification History

This unit supersedes and is equivalent to FDFBPMANA Operate manual bottling and packaging processes.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the bottling and packaging stream of the wine sector. It covers the skills and knowledge required to set up, operate and shut down a range of manual and basic bottling and packaging equipment and to perform associated manual operations.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of manually operated bottling and packaging equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate manual or basic bottling and packaging equipment	1.1 Product and materials are confirmed and available to meet production requirements 1.2 Product and materials are prepared to meet production requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet production requirement
2. Operate and monitor manual or basic bottling and packaging processes	2.1 The equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Bottling and packaging output meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down manual or basic bottling and packaging processes	3.1 Equipment is shut down according to workplace procedures 3.2 Equipment is prepared for cleaning 3.3 Waste generated by both the process and the cleaning is collected, treated, and disposed of, or recycled according to workplace procedures
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify bottling and packaging requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- liaise with other work areas, which may include:
 - maintenance

- materials supply
- bottling and packaging personnel
- prepare materials as required. This may include loading materials and confirming that:
 - capsules meet specifications (e.g. colour, type and size)
 - glue, hotmelt or wax meets specifications (e.g. type and batch number)
 - hotmelt or wax is heated to required temperature
 - bottles meet specifications (e.g. type, colour and size)
 - bottles to be de-crowned meet specifications
 - bottles to be decanted meet specifications
 - cartons to be packed and sealed meet specifications
 - cartons to be stencilled meet specifications
 - bottles to be waxed meet specifications
 - materials to be loaded into magazines meet specifications
 - bottles to be binned or de-binned meet specifications
 - bottles to be labelled meet specifications
 - bottles to be tissue wrapped meet specifications
 - boxes to be nailed meet specifications
 - pallets to be stacked meet specifications
- confirm equipment status and condition. This may include:
 - confirming hygiene and sanitation standards have been met
 - adjusting air pressure
 - checking conveyor speed
 - adjusting height and width to accommodate specific product and material specifications
 - completing a test run
 - confirming flow of line lube and water
 - realigning diverters and turners to ensure flow is as instructed
- set up and start up the equipment
- monitor the equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - conveyor speed
 - movement, spacing and direction of bottles or cartons on conveyor
 - bottle cleanliness and draining effectiveness
 - dryness of bottles
 - glue length
 - strength of carton seals
 - shrinkage or fit of capsules
 - stacking and stacking patterns meet specifications
 - bottle counters are re-set at the start of each product
 - bottles are waxed to correct level
 - stencils applied are clear and legible

- wine levels meet specification
- ongoing quality of materials used
- ongoing appearance of applications
- monitor supply and flow of materials to and from the equipment
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing. in preparation for cleaning and sanitation.
- maintain work area to meet housekeeping standards
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- links to related equipment
- stages and changes which occur during the equipment operation
- effect of equipment operation stages on end product and output
- quality characteristics and uses of end product and output
- materials preparation requirements and effect of variation on the equipment operation
- emergency and troubleshooting procedures, including failure of services
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- services required
- significance and method of monitoring control points within the equipment operation
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls, including manual handling
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown

- routine maintenance requirements
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for manual bottling and packaging • start, operate, monitor and adjust equipment to achieve required quality outcomes • take corrective action in response to faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • equipment, services and corresponding information as required • products and materials as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Manual or basic bottling and	Equipment will vary according to the bottling and

RANGE STATEMENT	
packaging equipment	<p>packaging scope of the enterprise and includes equipment that requires full manual operation, including manual loading and unloading and all or some manual operations bottling and packaging operations. The unit can also apply to basic bottling and packaging equipment that includes some automatic operations. Examples include equipment that:</p> <ul style="list-style-type: none"> • needs manual loading and unloading • can process a limited number of bottles, cartons or pallets at a time • can perform some but not all of the bottling function (e.g. bottles but does not affix labels) <p>The range of equipment can include equipment associated with:</p> <ul style="list-style-type: none"> • decanting • loading capsule, cork and carton magazines • depalletising • binning and de-binning • sealing • capsuling • labelling • inserting cork stoppers • tissue wrapping • gift boxing • nail gun operation • wax dipping bottles • stencilling • carton coding • carton erection • operating conveyors • carton turners and bottle counters • carton packing • pallet stacking
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • capsules • cartons • corks • glue • hotmelt

RANGE STATEMENT	
	<ul style="list-style-type: none"> • bottles (full or empty) • labels • hot wax • ink • nails
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • water • steam • inert gas • lubrication • vacuum
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFBP2011A Operate the palletising process

Modification History

This unit supersedes and is equivalent to FDFBPPALA Operate the palletising process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated bottling and packaging equipment involved in the palletising process
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a palletising process and associated equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate palletising equipment	1.1 Product and materials are confirmed and available to meet palletising requirements 1.2 Product and materials are prepared to meet palletising requirements 1.3 Services are confirmed as available and ready for operation 1.4 Palletising equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet palletising requirements
2. Operate and monitor the palletising process	2.1 Palletising equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Product is palletised according to specification 2.4 Palletising equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down the palletising process	3.1 Palletising equipment is shut down according to workplace procedures 3.2 Palletising equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify palletising requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include:
 - checking cartons meet specifications
 - confirming compressed air, power and vacuum are available to equipment
- liaise with other work areas which may include:
 - maintenance personnel
 - quality assurance personnel
 - materials supply
 - cellar
 - bottle supply operators
 - filling operators
 - bottle sealing operators
 - bottle capsuling operators
 - labelling operators
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - vacuum is operational
 - pallet pattern is set to specifications
 - slip sheets for export are available
 - plastic shrink wrapper is loaded and operational
 - pallet identification equipment is operational
 - sufficient and correct pallets are available
 - carton turning equipment is operational
 - pallet tacking hot glue is operational
 - infeed guides and gates are operational
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - compressed air pressure
 - vacuum
 - the ongoing quality and appearance of stacked pallets
 - cartons are going onto stripping plate according to set pattern
 - the ongoing quality and appearance of shrink wrapping
 - the ongoing quality and appearance of pallet identification
 - the ongoing quality and appearance of pallets and slip sheets
 - stacks are square on pallets
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance

- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line.
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- clean and sanitise equipment according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- handle spirits according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of palletising equipment
- key features of palletising equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements

- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirement for waste generated by process and cleaning operation
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant
- spirit handling requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for palletising • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
<p>Context of and specific resources for</p>	<p>Assessment must occur in a real or simulated workplace</p>

EVIDENCE GUIDE	
assessment	<p>where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information can include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include a range of palletising machinery, such as:</p> <ul style="list-style-type: none"> • slip sheet dispenser • plastic shrink and stretch wrap • pallet tacking hot glue • pallet identification (e.g. barcodes and export requirements)
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • cartons of bottles or softpacks (any size) for still wine, sparkling wine, fortified wine, spirits and related drink products • slip sheets • plastic shrink and stretch wrap • labels
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • vacuum
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system

RANGE STATEMENT	
Control points	Control points refer to those key points in a work process that must be monitored and controlled. These include: <ul style="list-style-type: none">• food safety (critical)• quality and regulatory control points• inspection points
Information systems	Information systems may be: <ul style="list-style-type: none">• print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFBP3001A Operate the bottle filling process

Modification History

This unit supersedes and is equivalent to FDFBPBFPB Operate the bottle filling process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated bottling and packaging equipment involved in the bottle filling process.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a bottle filling process and associated equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate bottle filling equipment	1.1 Product and materials are confirmed and available to meet bottling requirements 1.2 Product and materials are prepared to meet bottling requirements 1.3 Services are confirmed as available and ready for operation 1.4 Bottle filling equipment is prepared and checked to confirm readiness for use 1.5 Filling equipment is set to meet bottling requirements
2. Operate and monitor the bottle filling process	2.1 Bottle filling equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Bottles are filled according to specification 2.4 Bottle filling equipment is monitored to confirm operating condition 2.5 Out-of-specification end product, process and equipment performance is identified, rectified and/or reported
3. Shut down the bottle filling process	3.1 Bottle filling equipment is shut down according to workplace procedures 3.2 Bottle filling equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	3.5 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify bottle filling requirements

- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include:
 - confirming gas, compressed air, water, power and vacuum are available to equipment
 - checking product to be bottled meets specification
 - checking bottles meet size and type specification and quality and hygiene standards
- liaise with other work areas, which may include:
 - maintenance personnel
 - quality assurance personnel
 - materials supply
 - cellar
 - bottle supply operators
 - bottle sealing operators
 - bottle capsuling operators
 - labelling operators
- confirm equipment status and condition. This may include completing a test run, making minor adjustments as required and confirming that:
 - cleaning and sanitation processes are completed
 - filling tubes meet specification
 - doser is set up and is operational
 - bottle feeds are filled with correct screws and stars and accurately aligned
 - height of filler is adjusted to suit bottle height
 - lines and equipment are flushed with product to be bottled
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - gas pressure
 - vacuum
 - product or wine temperature
 - fill height and volume
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- operate the fine filtration process according to enterprise procedures

- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- handle spirits according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of bottle filling equipment
- key features of bottle filling equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics and uses of end product
- effect of product and materials on process outcomes
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and methods of monitoring control points
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- routine maintenance requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- collection, treatment and handling requirement for waste generated by process and cleaning operation
- recording requirements and procedures
- fine filtration procedures where relevant
- sampling procedures where relevant

- testing procedures where relevant
- routine maintenance procedures where relevant
- spirit handling requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for bottle filling • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	Equipment may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • counter-pressure fillers • gravity fillers • vacuum fillers • volumetric fillers • pressure fillers
Products and materials	<p>Products and materials may include:</p> <ul style="list-style-type: none"> • still wine, sparkling wine, fortified wine, liqueur, spirits and related drink products • bottles (any size)
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • water • inert gas • steam • vacuum
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFBP3002A Operate the labelling process

Modification History

This unit supersedes and is equivalent to FDFBPLPB Operate the labelling process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated equipment involved in the labelling process.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a labelling process and associated equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate labelling equipment	1.1 Product and materials are confirmed and available to meet labelling requirements 1.2 Product and materials are prepared to meet labelling requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet labelling requirements
2. Operate and monitor the labelling process	2.1 Labelling equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Bottles are labelled according to specification 2.4 Labelling equipment is monitored to confirm operating condition 2.5 Out-of-specification products, process and equipment performance is identified, rectified and/or reported
3. Shut down the labelling process	3.1 Labelling equipment is shut down according to workplace procedures 3.2 Labelling equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify labelling requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials and services. This may include:
 - checking labelling materials meet workplace specifications
 - checking bottles meet size and type specification and quality and hygiene standards
 - confirming compressed air, water and power are available to equipment
- liaise with other work areas, which may include:
 - maintenance personnel
 - quality assurance personnel
 - materials supply
 - bottle supply operators
 - bottle filling operators
 - bottle sealing operators
 - bottle capsuling operators
 - administration or marketing
- prepare product and materials. This may include:
 - heating glue to correct temperature
 - checking glue meets specification according to label type
 - confirming dryness of bottles in readiness for labels
 - check labels meet specification of product eg alcohol content
 - inserting labels, correctly orientated in magazine
 - feeding label web through application mechanism
- confirm equipment status and condition. This may include completing a test run and checking:
 - alignment of bottle feed screws and stars
 - alignment of label pick up and application components
 - out-feed components are aligned correctly and will not damage label
 - label alignment, orientation and height meet specifications
 - timing and alignment of web feed and bottle feed
 - any related coders are correctly set up and operational

REQUIRED SKILLS AND KNOWLEDGE

- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - label adhesion
 - label orientation
 - label damage
 - label positioning
 - smooth versus bubbled labels
 - misprinted labels
 - any label or bottle coding applied as part of the process
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- clean and sanitise equipment according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of labelling equipment
- key features of labelling equipment and components
- links to related processes

REQUIRED SKILLS AND KNOWLEDGE

- stages and changes which occur during the process
- effect of process stages on end product
- quality characteristics of end product
- product and materials preparation requirements and effect of variation on the process. This may include effect on end results of:
 - glue temperature
 - glue type
 - wet bottles
 - faulty label feed
 - incorrect or inaccurate labels
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- routine maintenance requirements
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- waste handling requirements and procedures
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment

EVIDENCE GUIDE	
Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for labelling • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of

EVIDENCE GUIDE

circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised wording**, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	Equipment may include: <ul style="list-style-type: none"> • wet gum labellers • pressure sensitive labellers • neck taggers
Product and materials	Product and materials include: <ul style="list-style-type: none"> • filled bottles • labels • glue • neck ties • additional promotional dress
Equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety

RANGE STATEMENT	
	standards and pre-start requirements are met and that equipment is operational <ul style="list-style-type: none"> checking operation or calibration of measuring instrumentation
Services	Services may include: <ul style="list-style-type: none"> power compressed air water
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> the use of production data, such as performance control charts
Process operation and monitoring functions	Process operation and monitoring functions may be: <ul style="list-style-type: none"> manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. These include: <ul style="list-style-type: none"> food safety (critical) quality and regulatory control points inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFBP3003A Operate the softpack filling process

Modification History

This unit supersedes and is equivalent to FDFBPCSPFB Operate the softpack filling process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate and shut down a range of semi-automated and automated equipment involved in the softpack filling process.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations bottling and packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a softpack filling process and associated equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to operate softpack filling equipment	1.1 Products and materials are confirmed and available to meet filling requirements 1.2 Products and materials are prepared to meet filling requirements 1.3 Services are confirmed as available and ready for operation 1.4 Softpack filling equipment is prepared and checked to confirm readiness for use 1.5 Equipment is set to meet filling requirements
2. Operate and monitor the softpack filling process	2.1 Softpack filling equipment is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Softpacks are filled according to specification 2.4 Softpack filling equipment is monitored to confirm operating condition 2.5 Out-of-specification product, processes and equipment are identified, rectified and/or reported
3. Shut down the softpack filling process	3.1 Softpack filling equipment is shut down according to workplace procedures 3.2 Softpack filling equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify softpack filling equipment
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- liaise with other work areas, which may include:
 - maintenance
 - quality assurance personnel
 - materials supply
 - cellar
 - laboratory
- prepare product and materials as required. This may include:
 - loading continuous feed softpacks (foil) through infeed and into filler
 - checking softpacks meet specifications (e.g. size and integrity)
 - checking product to be packaged meets specifications (e.g. vintage, temperature and grape variety)
- confirm equipment status and condition. This may include:
 - checking head alignment and operation
 - testing bag weights and volumes
 - completing a test run
 - flushing lines and equipment with product to be packaged
 - making minor adjustments as required
 - confirming cleaning and sanitation processes are completed
 - checking evacuation of air from softpack via vacuum
 - ensuring inert gas release at end of filling cycle
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring:
 - continuity of supply of softpacks to filler
 - bag weight and volumes
 - bag quality and integrity (leaks)
 - inert gas release
 - vacuum prior to fill
- monitor supply and flow of product materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing product or consumables from the line.
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation.
- record workplace information

- maintain work area to meet housekeeping standards
- operate the fine filtration process according to enterprise procedures
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of softpack filling equipment
- key features of softpack filling equipment and components
- links to related processes
- stages and changes which occur during the process
- effect of process changes on end product
- quality characteristics of end product
- product and materials preparation requirements and effect of variation on process
- emergency and troubleshooting procedures
- process specification, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services required
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- routine maintenance requirements
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown sequence
- shutdown and cleaning requirements associated with changeovers and types of shutdown
- waste handling requirements and procedures
- recording requirements and procedures
- fine filtration procedures where relevant

- testing procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for softpack filling • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as

EVIDENCE GUIDE	
	<p>required</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • softpack fillers • form-seal fillers

RANGE STATEMENT	
	<ul style="list-style-type: none"> • inkjet coders for quality assurance identification • vacuum pumps
Product and materials	<p>Product and materials include:</p> <ul style="list-style-type: none"> • product for filling • softpacks • coding inks
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking operation or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • compressed air • water • inert gas • steam • vacuum
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. These include:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFBV2001A Operate a deaeration, mixing and carbonation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a process to deaerate, mix and carbonate aerated drink products prior to filling.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in an aerated beverages production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a deaerator, a continuous flow mixing process and a carbonator.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing or operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met at each stage 2.5. Out-of-specification product or process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming operation of the vacuum pump on the deaerator, setting orifice plate and vernier to deliver syrup and water in the required proportions to the mixer, checking supply of refrigerant and carbon dioxide, setting required temperature and pressure settings, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification
- on the deaerator, monitor:
 - water supply
 - vacuum pump operation
 - water level/vacuum level
- at the mixing state, monitor:
 - correct blend ratio for product type
 - brix of the mix
- at the carbonation state, monitor:
 - volume of carbon dioxide injected
 - temperature
 - speed of injection
 - testing carbonation of liquid
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- for a given syrup:water ratio, determine required operating settings to achieve a given brix result
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within

REQUIRED SKILLS AND KNOWLEDGE

level of responsibility

- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each stage of the process, including the relationships between variables, such as pressure, temperature and volume on processing outcomes
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the deaeration, mixing and carbonation process and the effect of outputs on downstream processes, including how each stage of the process affects related stages and how the outputs of this process affect the filling stage
- quality characteristics to be achieved by each stage of the process, including the amount of dissolved air to be removed at deaeration, the typical water:syrup ratios for product types and the volume of carbon dioxide to be dissolved in the aerated product
- quality and condition requirements of inputs and effect of variation on process performance, such as the characteristics of different ingredients and how they behave when processed, e.g. the difference between processing products containing fruit juice compared with those that do not
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, including inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements, including test procedures for brix and carbonation and other tests as required by the process
- contamination/food safety risks associated with the process and related control

REQUIRED SKILLS AND KNOWLEDGE

measures

- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for deaeration, mixing and carbonation
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- process and related equipment and services, including refrigerant and carbon dioxide
- syrup, water and other ingredients as required
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work must be carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Equipment	Equipment typically includes: <ul style="list-style-type: none"> a deaerator a continuous flow mixing process a carbonator <p>Carbonation may include both direct injection through pipework and/or gas absorption under refrigerated and pressurised conditions in a carbonator</p>
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend

RANGE STATEMENT

	<p>on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • refrigerant • carbon dioxide • water • vacuum/pressure • compressed and instrumentation air
--	---

Unit Sector(s)

Unit sector	Beverages
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFBV2002A Manufacture coffee (roast and ground)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a blending, roasting and grinding process.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a coffee production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a blending, roasting and grinding process and associated equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the blending, roasting and grinding process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the blending, roasting and grinding process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. Green beans are blended and roasted according to product and recipe specifications</p> <p>2.5. Roasted beans are ground to product specifications</p> <p>2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.7. The work area is maintained according to housekeeping standards</p> <p>2.8. Work is conducted according to environmental standards</p> <p>2.9. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the roasting and grinding process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the roasting process and equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - temperatures
 - throughput/roasting times
 - product levels
 - water quench quantity
 - visually inspecting product, including bean colour
- start, operate, monitor and adjust the grinding process and equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - weight
 - density
 - product levels
 - particle size distribution
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct product/batch changeovers according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- steps and purpose of each stage in the roasting and grinding process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, basic principles and operation of roasting and grinding system, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of roasting and grinding process and the effect of product output on downstream processes
- quality characteristics to be achieved by the roasting and grinding process
- varieties of green beans and effect of bean characteristics on roasting and grinding processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• product/process changeover procedures and responsibilities where relevant• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for blending, roasting and grinding • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • production schedule and batch instructions • specifications, control points and processing parameters • information on equipment capacity and operating parameters • roasting and grinding process and related equipment and services • green beans • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2014A Participate in sensory analyses • FDFOP2030A Operate a process control interface • PMSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Materials	<p>Materials include:</p> <ul style="list-style-type: none"> varieties of green coffee beans process and packaging consumables
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> roasters grinding/milling system blenders transfer and storage systems colour meters and destoners
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> • power, steam, water, vacuum, and compressed and instrumentation air

Unit Sector(s)

Unit sector	Beverages
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFBV2003A Operate an ice manufacturing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, monitor, and adjust a process to manufacture ice.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of an ice manufacturing process and equipment.</p> <p>This unit is appropriate where the process requires operator monitoring and adjustment. Where the process is highly or fully automated, this unit may not apply.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the ice making equipment and process for operation	1.1. Water suitable for ice manufacture is available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the ice making process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental standards 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the ice making process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify ice production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, checking refrigerant levels, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, such as:
 - temperature range
 - ice thickness
 - cycle time
 - head pressures
- monitor ambient temperature and adjust the process as required
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and

REQUIRED SKILLS AND KNOWLEDGE

- the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the stages in the ice making cycle (depending on process, this includes a make and defrost stage)
- water treatment prior to use
- operating requirements, parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- adjustments required to take account of ambient temperature
- contamination/food safety risks and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- storage requirements for packed ice
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for ice manufacture • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • process and related equipment and services • water to be used for ice manufacture • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	<p>other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Ice production	<p>Ice production includes:</p> <ul style="list-style-type: none"> • tube • block • plate • shell • flake ice <p>Ice is bagged or filled into insulated bins</p>
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • tube, plate and scraped surface heat exchangers
Related processes	Related processes may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • water purification • crushing • pressing and/or bagging
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • refrigerant • water • compressed and instrumentation air

Unit Sector(s)

Unit sector	Beverages
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFCD2001A Conduct winery and or site tours

Modification History

This unit supersedes and is equivalent to FDFCDSWSTB Conduct winery and/or site tours.

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar door sales stream of the wine sector. It covers the skills and knowledge required to conduct winery and/or site tours for a variety of domestic and overseas visitors.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to cellar door staff of winemaking enterprises that conduct tours of their operations. The unit can apply to wineries of different sizes, locations and product ranges as well as to distilleries. The unit covers the preparation, conduct and evaluation of tours including presentations and monitoring of tour members for occupational health and safety (OHS) and compliance with regulations and procedures to minimise the distribution of pests and diseases.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	FDFCD2002A	Promote wine tourism information* <i>SIRXCCS202 Interact with customers</i>
---------------------------	------------	--

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for tour	1.1 Size, composition and specialised requirements for touring party are established 1.2 Background research is carried out to ensure the tour presentation includes up-to-date and appropriate information 1.3 Tour and materials are planned and prepared to meet customer and enterprise objectives
2. Conduct tour	2.1 Tour group is welcomed and briefed according to workplace procedures 2.2 Members of tour are informed of, and comply with, enterprise OHS regulations and precautions before and during tour 2.3 Presentations given to tour members contain the level of specialised and technical information appropriate to the group's requirements 2.4 Special facilities, services and hospitality arrangements are provided as required 2.5 Presentations are given in a place where tour members can hear easily (where practical) 2.6 Tour members are invited to ask questions and seek further explanation 2.7 The welfare and comfort of tour members is maintained at all times according to workplace procedures
3. Evaluate and assess performance	3.1 Tour members and/or accompanying staff are asked to participate in a review procedure, as required by the enterprise 3.2 Self-assessment of performance is carried out in accordance with workplace procedures 3.3 Positive and negative aspects of the way the tour was conducted are recognised and addressed 3.4 Feedback from tour members is dealt with according to workplace policy

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify tour requirements
- liaise with other work areas. These may include tasting area, public relations, winemaker, cellar, vineyard manager and hospitality coordinator
- apply a high standard of personal presentation. This may include personal hygiene, dress or uniform
- identify requirements of touring party. These may include:
 - date
 - times of arrival and departure
 - other activities either side of the tour
 - members
 - objectives of tour
 - special needs and requests (e.g. wheelchair access)
- conduct effective background research, including up-to-date and accurate information relevant to customer and enterprise objectives
- plan and prepare tour and supporting materials. This may include:
 - mapping out route based on OHS requirements, site activities, weather, customer and enterprise tour objectives
 - checking availability of OHS equipment, such as hard hats, first aid kits and mobile phones
 - confirming availability and operation of microphones and other presentation equipment
 - liaising with site staff and confirming availability of relevant expertise
 - organising and briefing support staff as required
 - preparing handouts and overhead projector slides
 - preparing presentation content, location and timing
 - preparing for special requests
 - coordinating handovers of group to tasting or hospitality areas
- welcome and brief tour group. This may include:
 - identifying group leader and confirming procedures and activities
 - explaining itinerary, route and timing
 - pointing out toilets
 - indicating drink facilities
- inform tour members of enterprise OHS requirements and precautions before the tour. These may involve:

- forklift and other vehicle movements
- hard hats, safety glasses and ear plugs
- operating machinery
- wet floors
- uneven surfaces, steps, pipes and hoses
- liquid, solid and gaseous chemical hazards
- footwear (e.g. flat, practical shoes)
- fire and other emergency procedures
- precautions against sunstroke
- signing in and staying in a group
- children
- monitor tour group activities with regard to:
 - enterprise OHS requirements and precautions
- observe any phylloxera quarantine requirements and processes. These may include:
 - keeping tour groups off vineyards
 - keeping to concrete surfaces, roads and paths
 - providing overshoes
 - providing disinfectant kits
 - drawing tour groups attention to signs
- identify non-compliance and rectify and/or report corrective action as required. This may include:
 - liaising with tour group leader
 - firmly and politely correcting visitor non-compliance
 - refusing to include one or more individuals in a tour, where appropriate
 - arranging alternative activity for individuals left behind
- deliver presentations to tour group. This may include:
 - including technical and specialised information appropriate to group
 - using terminology and examples appropriate to the group
 - storytelling techniques
 - stopping to talk in safe, quiet, shaded locations
 - inviting questions and clarification
 - answering questions accurately and seeking relevant expertise as required
 - utilising visual aids and production equipment
 - including production expertise as required
 - conveying positive body language
 - projecting voice effectively
 - including all of the group by means of eye contact and body language
 - effective use of timing
 - relating information to surroundings
 - effective microphone techniques

- recognise key equipment on site and explain its features and purpose in the production process. Key equipment may include:
 - receival hoppers
 - crushers
 - presses
 - fermenters
 - filters
 - centrifuge
 - casks
 - bottling and softpack filling equipment
 - labeller
 - distillers
 - provide special facilities as requested. These may include:
 - meeting the winemaker
 - seeing specific machinery in operation
 - conducting a tasting of product during the production process
 - accessing private parts of the winery
 - monitor and maintain the welfare and comfort of tour members at all times. This may include monitoring for signs of:
 - heat stress
 - tiredness
 - boredom
 - sickness or injury
- and may include:
- providing water
 - making more or less frequent stops
 - stopping where seats are available
 - changing the route and tour content
 - providing non-emergency first aid (e.g. bandaids)
 - deliver effective customer service
 - deliver tour according to designated time scales
 - maintain the safety and welfare of the group in an emergency situation. This may include:
 - following evacuation procedures
 - using emergency equipment (e.g. fire extinguishers)
 - contacting first aiders and emergency services
 - calling for backup
 - splitting and managing the group
 - remaining calm and controlled
 - using problem-solving techniques
 - identifying contingency plans

- evaluate the success of the tour and personal performance. This may include:
 - actively seeking feedback from tour group and staff
 - receiving negative and positive feedback
 - handling criticism positively and professionally
 - self-evaluation and review
 - identifying areas for improvement and potential solutions
- record workplace information
- maintain work area to meet housekeeping standards
- work cooperatively within a culturally diverse workforce

Required knowledge

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of conducting winery and/or site tours
- link to related work areas and activities
- workplace policies and procedures with regard to:
 - OHS of site visitors
 - emergency procedures
 - customer service
 - public relations and information transfer
 - personal presentation
 - winery and/or site tours
 - customer complaints
- workplace policies and procedures with regard to phylloxera, including:
 - the aphid and its effect on the vine
 - the threat to Australian vineyards and wine industry
 - resistant root stock
 - quarantine areas
 - method of infection (e.g. vine cuttings, soil, machinery, grape products and people)
 - procedures to reduce the risk of spread
 - keeping visitors off vineyard and soil
 - cleaning vehicles
 - overshoes or disinfection of footwear
 - signs and fencing
- principles and techniques in:
 - problem solving
 - planning and organising
 - researching, collating and summarising information
 - verbal presentation of information, including visual aids and microphones as required

- communication and body language
- group facilitation
- time management
- conflict resolution
- monitoring
- evaluation and review
- signs of customer discomfort and corrective action required
- brand and enterprise objectives
- product range and services provided by the enterprise
- information about enterprise operations including:
 - brief history of Australian wine making
 - history of enterprise
 - unique or memorable information specific to the enterprise or site
- wine (and non-wine if applicable) production methods and processes of the enterprise, including:
 - key vineyard techniques and purposes (e.g. night harvesting)
 - soil and climate characteristics (e.g. terra rossa)
 - the features and purpose of key processing equipment, such as press, fillers and fermenters
 - key vinification techniques and purposes (e.g. barrel fermentation, cool fermentation and oak treatment)
 - key facts and figures (e.g. litres per tank and number of bottles per year)
- procedures and responsibility for reporting problems
- recording requirements and procedures
- housekeeping requirements and procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and	Evidence of ability to:

EVIDENCE GUIDE	
evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • establish composition and requirements of tour group prior to the tour • plan tour in advance, including liaising with staff in areas to be visited, preparation of handouts, and ensuring availability of any required protective equipment for tour members • conduct welcome and pre-tour briefing, including giving information on OHS and any other special procedures • conduct tour according to planned route and timing, including answering questions and making presentations • monitor tour members during tour for OHS and security compliance • demonstrate knowledge and skill in emergency procedures, including fire, evacuation and situations requiring first aid. This includes knowledge of and contact procedures for appropriate emergency resource personnel in the enterprise • seek feedback from tour members at the end of the tour and evaluate tour.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • workplace policy and procedures in regard to conducting winery and/or site tours • specifications • work notes • instructions or verbal direction from manager, supervisor or senior staff
Tour site	<p>The tour site may be all or part of a winery or distillery and may include:</p> <ul style="list-style-type: none"> • vineyards • cellar operations • warehouse • laboratory. <p>The size, type and location of winery or production site may vary.</p>
Tour clientele	<p>Tour clientele may include:</p> <ul style="list-style-type: none"> • people from a range of social, cultural or ethnic

RANGE STATEMENT	
	<p>backgrounds, age and physical and mental abilities. English may not be their first language</p> <ul style="list-style-type: none"> • VIPs • wine industry personnel • consumers
Products	<p>Products may include:</p> <ul style="list-style-type: none"> • wines and spirits • associated merchandise (e.g. corkscrews and glasses) • enterprise promotional merchandise (e.g. clothing and souvenirs)
Team members	<p>Team members may include:</p> <ul style="list-style-type: none"> • people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Staff	<p>Staff may:</p> <ul style="list-style-type: none"> • be full-time, part-time or casual • work in other areas of the enterprise
Working conditions	<p>Working conditions may be:</p> <ul style="list-style-type: none"> • routine, busy or quiet
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Equipment	<p>Equipment may vary, but should include that which is required to conduct winery and/or site tours according to workplace policies and procedures, and may include:</p> <ul style="list-style-type: none"> • hard hats • microphone • visual aids • specific technical equipment required to illustrate a point • mobile phone • water bottle
Presentations	<p>Presentations may include:</p> <ul style="list-style-type: none"> • history of the enterprise • history of production in Australia • grape varieties • viticultural year • production methods

RANGE STATEMENT	
	<ul style="list-style-type: none"> • production equipment • bottling and packaging methods
Special arrangements	<p>Special arrangements may include:</p> <ul style="list-style-type: none"> • a specialised product tasting • provision of food • presentation of detailed information from the winemaker • arranging special privileges
Emergency situations	<p>Emergency situations may include:</p> <ul style="list-style-type: none"> • accidents or sickness • evacuations due to fire, gas leaks, chemical spill and bomb threats

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFCD2002A Promote wine tourism information

Modification History

This unit supersedes but is not equivalent to FDFCDSWTB Promote wine tourism information.

September 2012: updated equivalent imported pre-requisite Unit.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar door sales stream of the wine sector. It covers the skills and knowledge required to provide relevant and accurate tourist information to winery visitors.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to staff employed in cellar door sales who provide information on wine products and wine growing in the enterprise, the region and Australia generally. The unit also covers the provision of information on local history and facilities as well as history and facilities of the enterprise.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	SIRXCCS202	Interact with customers

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Provide general overview of the Australian wine industry	1.1 A brief history of Australian viticulture and wine production is explained to customers on request 1.2 The main wine growing regions of Australia are identified and their general distinguishing features are explained in response to general customer queries 1.3 The position of Australian wines in the world market is explained 1.4 Procedures to minimise the risk of cellar door sales visitors bringing phylloxera into quarantine areas are explained
2. Provide general regional information	2.1 Grape varieties commonly grown in the region are identified 2.2 Location of local tourist bureau and other common tourist attractions, including special events, are explained to customers 2.3 A brief outline of local history is explained to customers 2.4 Details of local facilities are kept current and provided to customers on request 2.5 Contact names and locations of other local wineries are provided to customers on request 2.6 Local tourist information brochures are kept current and are displayed in the customer sales area 2.7 Customer needs are anticipated and information offered as required
3. Provide general information about the enterprise and its products	3.1 A brief history of the enterprise is explained to customers 3.2 The role of the cellar door sales department within the overall operation of the enterprise is identified 3.3 The countries to which enterprise products are exported are identified and general information regarding exported products is provided to customers 3.4 The common Australian wine awards are distinguished and those that apply to the enterprise product range are explained to customers 3.5 Key wine industry bodies, events and their functions are identified

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify wine industry tourism promotion requirements
- liaise with other work areas. This may include:
 - other wineries
 - tourist information bureaux
 - local attractions and facilities
- provide tourism information to winery visitors. This may include:
 - regular research and revision to ensure facts are accurate and up to date
 - accessing workplace information to find answers
 - drawing customers' attention to support materials (e.g. maps, pamphlets and books)
 - answering questions
 - anticipating customer needs and requirements
 - using terminology, pitch and levels appropriate to customer needs
 - using discretion and sensitivity
 - accurately identifying specific customer needs using listening, questioning and observation techniques (e.g. special dietary requirements)
 - selecting specific information or summary facts to meet customer needs succinctly
 - converting figures into a meaningful format (e.g. imperial or metric, and currency)
 - sketching maps and diagrams
 - writing information down accurately and legibly (e.g. addresses and telephone numbers)
 - balancing attention between several customers and groups)
- communicate to different customers. This may include:
 - verbal skills, public speaking and articulation
 - body language (e.g. eye contact)
 - listening skills
 - observation techniques
- provide information on phylloxera as required. This should include:
 - what phylloxera is and how it affects the vines
 - potential risk to Australian wine production
 - quarantine areas
 - procedures cellar door sales visitors can follow to reduce the risk of carrying the insect
 - it may include anticipating customer requirements and/or maintaining supplies of information leaflets

- interpret Australian wine labels in terms of the label integrity program. This will include identifying:
 - region of production
 - vintage
 - grape variety or varieties
 - additives
- maintain cellar door information resources. This may include:
 - identifying information that it likely to date quickly (e.g. menus and prices)
 - dating information sources in line with workplace procedures
 - removing, replacing and correcting damaged, inaccurate and out-of-date materials as required
 - sourcing replacement, new material in response to customer request and/or workplace requirements
 - researching and identifying up-coming events (e.g. festivals and new restaurant openings)
 - cleaning and tidying display areas
 - displaying information in an accessible and understandable format
 - creating information lists and documents
 - identify the role of the cellar door sales function within the overall operation of the enterprise
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- brief history of Australian wine production, including:
 - who first planted vines in Australia, where and when
 - how the wine industry developed
 - structure of the industry
 - key successes and challenges (e.g. phylloxera)
 - first exports
 - trends in styles produced
 - affect of immigrant tastes on wine styles
- location and key distinguishing features of Australia's main wine growing regions. Features may include:
 - climate
 - soil
 - grape varieties
 - wine styles
 - specific viticultural and vinification techniques

- key brands
- Key features of local wine growing region. Features may include:
 - climate
 - soil
 - grape varieties
 - wine styles
 - specific viticultural and vinification techniques
 - key brands
- position of Australian wine in the world market. This may include:
 - quantity and value of Australian exports
 - major importers of Australian wine
 - key brands exported
 - label interpretation and Australian wine label integrity program
- the threat of phylloxera to the Australian wine industry, including:
 - quarantine areas
 - effect of phylloxera on vine and wine
 - steps winery and vineyard visitors can take to minimise risk of transferring infection, including:
 - planning visits to phylloxera free areas before infected vineyards
 - avoiding the vineyard where possible
 - wearing disposable shoes
 - keeping to sealed roads and paths
- regional and local history. This may include:
 - Aboriginal sites
 - settlement dates and nationalities
 - populations
 - wine production and vineyards
- local events. This may include:
 - dates and times
 - features and expectations
 - booking procedures
 - information sources
 - locations
- local attractions, facilities and essential services. This may include:
 - telephone numbers
 - location and travel time
 - features
 - opening and running times
 - provision for special needs
- key Australian and international wine industry events and awards and their purpose. This

may include:

- basic understanding of judging process
- enterprise objectives and involvement
- key Australian wine industry bodies, their purpose and contact details
- key wine industry media, including:
 - title
 - target audience
 - issue frequency
 - availability
- enterprise features. These may include:
 - history
 - parent company and/or owners
 - size (e.g. hectares and production capacity)
 - key brands
 - product and service range
 - exports, overseas distributors
- enterprise's and competitors' product range and features, including:
 - styles
 - flagship brands
 - price
- workplace policy and procedures with regard to:
 - customer service and interaction
 - providing information
 - providing advice
 - OHS hazards and controls
 - procedures and responsibility for reporting problems
 - recording requirements and procedures.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access and identify information on the history and range of enterprise, regional and Australian wines • provide tourism information appropriate to the needs of visitors to the cellar door • explain phylloxera threats and prevention measures • maintain cellar door information resources and display areas • liaise with internal and external contacts, including: • other departments in the enterprise • other wineries • tourist information bureaux • local attractions and facilities.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • workplace policy and procedures in regard to providing tourism information • specifications • work notes • instructions or verbal direction from manager, supervisor or senior staff
Customers	<p>Customers may include:</p> <ul style="list-style-type: none"> • people from a range of social, cultural or ethnic backgrounds and physical and mental abilities. English may not be their first language • regular, new, external or enterprise personnel
Team members	<p>Team members may include:</p> <ul style="list-style-type: none"> • people from a range of social, cultural and ethnic

RANGE STATEMENT	
	backgrounds and physical and mental abilities
Staff	<p>Staff may:</p> <ul style="list-style-type: none"> • be full time, part time or casual • work in other areas of the enterprise
Trading and other working conditions	<p>Trading and other working conditions may be:</p> <ul style="list-style-type: none"> • routine, busy or quiet
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Information sources	<p>Information sources may be:</p> <ul style="list-style-type: none"> • available to the public • for enterprise personnel reference only
Australian wine regions	<p>Australian wine regions may include, but are not limited to:</p> <ul style="list-style-type: none"> • Barossa • Coonawarra • Riverland • Rutherglen • Yarra Valley • Hunter Valley • Margaret River • Launceston (alternatively the following could be put in brackets next to the relevant region) • Clare • McLaren Vale • Langhorne Creek • Padthaway • Pyrenees • Mudgee • Swan Valley • Cowra • MIA • Sunraysia • Gippsland • Granite Belt
Local events	<p>Local events may include:</p> <ul style="list-style-type: none"> • festivals

RANGE STATEMENT	
	<ul style="list-style-type: none"> • races • shows
Attractions and facilities	<p>Attractions and facilities may include:</p> <ul style="list-style-type: none"> • hotels • accommodation • train, bus and taxi services • restaurants and cafes • shops (e.g. grocery, police, hospitals, doctors, cinemas, theatres, petrol stations and ATMs) • other wineries
Key wine industry events and awards	<p>Key wine industry events and awards may include:</p> <ul style="list-style-type: none"> • Wine Australia • Tasting Australia and relevant regional events • International Wine Challenge • Jimmy Watson Trophy • regional and capital city shows and awards
Wine industry bodies	<p>Wine industry bodies include:</p> <ul style="list-style-type: none"> • Winemakers Federation of Australia (WFA) • Australian Wine & Brandy Corporation (AWBC) • Wine Grape Growers Council of Australia (WGCA) • Wine Industry National Education and Training Advisory Council (WINETAC) • Cooperative Research Centre for Viticulture (CRCV) • Phylloxera and Grape Industry Boards
Wine industry media	<p>Wine industry media may include:</p> <ul style="list-style-type: none"> • the Wine Industry Journal • Wine Spectator • Grapegrower and Winemaker • Decanter • Wine and Spirit International • Wine Magazine • Wine State Magazine
Distinguishing features	<p>Distinguishing features include:</p> <ul style="list-style-type: none"> • Climate • varieties of grape grown • styles of wine produced • size and characteristics of wine region

RANGE STATEMENT	
History	History may include: <ul style="list-style-type: none"> • founders • ownership • significant dates
Materials	Materials may include: <ul style="list-style-type: none"> • leaflets • maps • magazines • books

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFCD2003A Evaluate wines (standard)

Modification History

This unit supersedes but is not equivalent to FDFCDSEWB Evaluate wines (standard).
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar door sales stream of the wine sector. It covers the skills and knowledge required to complete a standard sensory evaluation of wine.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to a cellar door sales operation in the wine industry. The covers knowledge of grape varieties and wine styles, the provision of correct tasting arrangements for wines, identification of wine styles, grape varieties and wine faults, and the ability to communicate basic information about wine styles.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement appropriate tasting conditions	1.1 Each wine style is tasted under the most favourable conditions for that style 1.2 Tasting area and equipment are prepared to facilitate tasting 1.3 Appropriate precautions regarding personal preparation are completed 1.4 Wines are tasted in the most favourable order to show characters of each wine
2. Identify key styles and grape varieties using sensory evaluation techniques	2.1 Correct tasting procedures using sight, smell and taste are followed 2.2 The four key taste sensations of the tongue are identified 2.3 Characteristics of the key wine styles and grape varieties with regards to sight, smell and taste are explained 2.4 Wine is identified according to style and grape variety 2.5 The quality and characteristics of the wine style are evaluated and described 2.6 Evaluation conditions are as favourable as possible to minimise impact on outcomes
3. Identify basic wine faults	3.1 Basic wine faults are recognised and reported 3.2 The cork is inspected and faults identified
4. Communicate basic information about wine styles	3.3 Characteristics of a range of basic wine styles are verbally outlined 3.4 Distinctions between similar wine styles are verbally outlined 3.5 Questions are dealt with appropriately 3.6 Key factors contributing to the style and flavour of wine are stated and explained

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to determine wine evaluation requirements
- confirm supply of necessary products and materials
- prepare product and materials as required
- confirm equipment status and condition as required
- implement and maintain appropriate tasting conditions. This will include consideration of:
 - environment:
 - eradication of odours
 - natural light
 - white surfaces
 - room temperature
 - ventilation
 - noise and distraction eradication
 - taster:
 - nil perfume
 - clean palate
 - refreshed and alert
 - glasses:
 - appropriate shape and style
 - clean and polished
 - neutral odours
 - undamaged
 - equipment:
 - spittoons
 - water
 - wine:
 - optimum temperature
 - opening and breathing
 - decanting
- tasting wines in the most appropriate order. This may include consideration of:
 - colour
 - age
 - sweetness

- weight and body
- still or sparkling
- alcohol content
- flavour
- open bottles safely. This may include:
 - clean cutting and removal of foil
 - ensuring lip of bottle is free from dirt or debris
 - operating a corkscrew
 - removing cork cleanly
 - taking necessary precautions to avoid cork disintegration
 - techniques specific to sparkling wine
- pour tasting samples. This should be completed cleanly and without drips and ensure quantities poured are appropriate to the wine style tasted
- complete a visual appraisal of wine. This may include:
 - wine swirling and glass handling techniques
 - use of light and background
 - assessing clarity and recognising faults
 - describing intensity and type of colour
 - identifying ‘legs’ or ‘tears’ to assess alcohol content
- complete a smell or nose appraisal of the wine, including:
 - implementing techniques to release the wine aromas
 - recognising ‘off’ odours
 - assessing intensity of aromas
 - describing smell characteristics (e.g. fruity, vegetal and spicy)
 - assessing age of wine
- complete a taste appraisal of the wine. This may include:
 - implementing techniques to release wine flavours, such as sucking in air and swirling wine over all the taste buds in the mouth and tongue
 - spitting technique
 - recognising acidity
 - recognising sweetness
 - recognising weight or body
 - recognising length
 - describing intensity and types of flavour
 - recognising common wine faults
 - assessing the balance of wine features on the palate
- evaluate the quality of wines tasted. This may include consideration of:
 - wine faults
 - length
 - balance

- describe how wine is made and identify the key factors affecting the resulting wine style
- verbally describe a wine style
- answer questions about wines tasted
- taste wines 'blind' and accurately identify:
 - key wine styles
 - key grape varieties
- consistently identify key wine styles and grape varieties using sensory evaluation techniques and 'trigger' characteristics, for example:
 - fruit characteristics:
 - black currants (Cabernet)
 - petrol (Riesling)
 - balance:
 - higher acidity (cooler climate)
 - higher alcohol (warmer climate)
- record workplace information
- maintain work area to meet housekeeping requirements
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of standard sensory evaluation of wines
- links to related work areas and activities
- quality characteristics of equipment and materials
- trigger characteristics of key wine styles and grape varieties
- factors affecting the outcomes of a tasting and optimum conditions required, including:
 - environment
 - taster
 - glasses
 - equipment
 - wine preparation
- factors contributing to the order in which various wine styles should be tasted. This may include:
 - still versus sparkling
 - aged versus young
 - dry versus sweet
 - non-oak versus oak

- light in body versus full-bodied
- white versus rosé versus red
- lower alcohol versus higher alcohol
- wine sensory evaluation techniques and procedures, with reasoning, including:
 - handling of glass and swirling techniques
 - use of light and white background
 - visual appraisal
 - sniffing and nosing
 - tasting and spitting
 - pey taste sensations
 - cleansing palate between tastings
- key wine features, how they vary and how they can be identified using tasting techniques. These may include:
 - wine health and quality (e.g. taints and deposits)
 - sweetness
 - acidity
 - alcohol
 - flavour and aroma
 - tannin
 - body and weight
 - balance
 - length
- factors which affect the style and quality of wine, including:
 - climate
 - soil
 - grape variety
 - viticultural techniques
 - storage
 - vinification techniques
- preparation and serving conditions
- basic wine faults, features and causes, including:
 - oxidation
 - tartrates
 - cloudiness
 - cork faults
 - excessive sulphur dioxide
- appropriate terminology for describing wine to customers and wine industry personnel
- information sources on wine tasted
- interpretation of labels
- occupational health and safety (OHS) hazards and controls

- procedures and responsibility for reporting problems
- housekeeping requirements and procedures
- recording requirements and procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • consistently establish appropriate conditions for tasting wines • evaluate wines in an appropriate manner for sight, smell and taste, and explain results • correctly identify wines for style, grape variety and quality, and evaluate and explain characteristics • identify basic wine faults • communicate basic information about wine styles.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • workplace policy and procedures in regard to evaluating wine • specifications • work notes • instructions or verbal direction from manager, supervisor or senior staff
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Equipment	<p>Equipment may vary and should include that which is required to evaluate wine according to workplace policies and procedures, and may include:</p> <ul style="list-style-type: none"> • spittoons • glasses • corkscrews
Materials	Materials may vary and should include that which is required to evaluate wine according to workplace

RANGE STATEMENT	
	<p>policies and procedures, and may include:</p> <ul style="list-style-type: none"> • product information sheets • tasting notes
Key wine styles	<p>Key wine styles include:</p> <ul style="list-style-type: none"> • white • rosé • red • fortified • sparkling • still • light-bodied, medium-bodied and full-bodied • dessert • dry and medium
Wine faults	<p>Wine faults may include:</p> <ul style="list-style-type: none"> • deposits • haze • tartrates • crystals • oxidation • cork taint • excessive sulphur dioxide
Key grape varieties	<p>Key grape varieties include:</p> <ul style="list-style-type: none"> • Shiraz • Cabernet Sauvignon • Merlot • Grenache • Pinot Noir • Chardonnay • Riesling • Semillon • Wines may be single varietals or a blend of two or more varieties
Wine characteristics	<p>Wine characteristics include:</p> <ul style="list-style-type: none"> • clarity • colour type and intensity • alcohol (light, medium, high) intensity • aroma and flavour

RANGE STATEMENT

- sweetness
- acidity
- body
- weight
- mouth feel
- tannin
- balance
- length

Unit Sector(s)**Unit sector**

Wine operations

FDFCD2004A Perform cellar door stock control procedure

Modification History

This unit supersedes and is equivalent to FDFCDSSCPB Perform cellar door stock control procedures.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been customised for the cellar door sales stream of the wine sector. It covers the skills and knowledge required to receive, unpack and dispatch goods and to participate in stocktaking.
------------------------	--

Application of the Unit

Application of the unit	This competency applies to cellar door operations in the wine industry. The unit covers receiving, dispatching, ordering, storing and monitoring of wine and other products sold through the cellar door operation.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	FDFCD2003A	Evaluate wines (standard)
---------------------------	------------	---------------------------

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Receive and process incoming goods	1.1 Cleanliness and orderliness in receiving bay is maintained according to workplace policy 1.2 Work is conducted in accordance with workplace environmental guidelines 1.3 Goods are unpacked using correct techniques and equipment in line with workplace policy 1.4 Packing materials are removed and disposed of promptly according to workplace policy 1.5 Incoming stock is accurately checked and validated against purchase orders and delivery documentation according to workplace policy 1.6 Items received are inspected for damage, quality, use-by dates, breakage or discrepancies and recorded according to workplace policy 1.7 Stock levels are accurately recorded on workplace stock systems, according to workplace policy 1.8 Secure storage of stock is arranged according to workplace policy and government legislation 1.9 Stock is dispatched to appropriate area as required 1.10 Stock price and code labels are applied when required according to workplace policy
2. Rotate stock	2.1 Stock rotation procedures for merchandise and wrapping and packing materials are carried out routinely and accurately according to workplace policy 2.2 Excess stock is placed in storage or disposed of according to workplace policy 2.3 Safe lifting and carrying techniques are maintained in line with workplace occupational health and safety (OHS) policy and government legislation
3. Participate in stocktake	3.1 Stocktaking and cyclical counts are assisted with according to workplace policy and procedures 3.2 Stock records documentation is completed accurately according to workplace stock control system 3.3 Discrepancies in stock are recorded and reported 3.4 Electronic recording equipment, where required, is operated and maintained according to manufacturer specifications
4. Reorder stock	4.1 Minimum stock levels are identified according to workplace policy 4.2 Stock requisition forms or electronic orders are completed accurately

ELEMENT**PERFORMANCE CRITERIA**

	4.3 Undelivered stock orders are identified on stock system and followed up without undue delay
5. Dispatch goods	5.1 Stock to be returned to supplier, warehouse is identified and labelled with date, supplier and reason for return, or referred to management if required
	5.2 Credit request documentation is completed according to workplace procedure, as required
	5.3 Stock is stored securely while awaiting dispatch
	5.4 Delivery documentation is completed according to workplace procedures
	5.5 Special delivery instructions are noted
	5.6 Items are packed safely and securely to avoid damage in transit

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify stock control requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, equipment and materials
- liaise with other work areas (e.g. warehouse)
- confirm equipment status and condition, as required
- consistently apply workplace policies and procedures, industry codes of practice, relevant legislation and statutory requirements in regard to stock control
- consistently apply safe work practices in the manual handling and moving of stock, according to OHS legislation, regulations and codes of practice
- interpret and apply manufacturer instructions with regard to handling stock and using relevant equipment
- receive incoming goods according to workplace policies and procedures. This may include:
 - keeping goods separate from storeroom stock
 - ensuring stock does not block paths or fire exits
 - correctly identifying stock using labels and packaging
 - interpreting delivery notes
 - checking goods against delivery note
 - identifying discrepancies
 - confirming discrepancies with delivery person
 - implementing theft minimisation procedures
- process incoming goods according to workplace procedures. This may include:
 - unpacking goods
 - storing in correct location
 - rotating stock
 - inputting, updating stock records
 - disposing of packaging
- dispatch outgoing goods according to workplace procedures. This may include:
 - interpreting dispatch documentation
 - selecting and picking goods
 - checking product quality and specification
 - packaging, wrapping and labelling for safe transit
 - completing paperwork
 - updating stock records

- storing safely ready for pick up
- rotate stock and reorder and maintain stock levels according to workplace policies and procedures. This may include:
 - checking sell-by dates, vintages and product quality and packaging and label design
 - checking and coordinating shelf, fridge and storeroom stock
 - identifying and removing faulty products
 - interpreting stock and order schedules
 - calculating stock requirements
 - completing stock ordering documentation (manual or electronic)
 - liaising with suppliers
 - correctly identifying product specifications
- accurately and effectively assist with stocktaking and cyclical counts according to workplace policies and procedures. This may include:
 - isolating storage areas
 - correctly identifying and recording product specifications
 - identifying correct quantities
 - completing accurate calculations
 - monitoring stock movement and sales
 - including all stock (e.g. displays, fridge, storeroom and shelves)
- interpret and process information accurately and responsibly
- apply skills and techniques in following set routines and procedures
- correctly and effectively use electronic labelling, ticketing and stocktaking equipment as required
- apply communication and numeracy skills associated with:
 - stock records and delivery and dispatch documentation
 - stock counts and units
- shut down equipment as required
- record workplace information
- maintain work area to meet housekeeping standards
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of stock control
- links to related work areas and activities
- quality characteristics of products and packaging materials

- OHS hazards and controls
- operational aspects of workplace policies and procedures in regard to:
 - stock control
 - stock levels and excess stock
 - stock rotation
 - ordering stock
 - product quality
 - packaging standards
 - correct unpacking of goods
 - out-of-date, missing or damaged stock
 - equipment use and maintenance
 - stock location
 - stock price and code labelling
 - correct handling and storage of goods
 - delivery documentation
 - stock record documentation
- dispatch documentation
- suppliers (external and warehouse)
- stocktaking and cyclical counts
- manual handling and lifting techniques
- basic legislation and statutory requirements, including:
 - serving and selling liquor (cellar door sales only)
 - industry codes of practice
 - consumer law (cellar door sales only)
 - visitor and customer OHS as they apply in the workplace
- likely causes of inaccuracies and preventive or corrective action required
- procedures and responsibility for reporting problems
- housekeeping requirements and procedures
- recording requirements and procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • ensure incoming goods are received, unpacked, checked and stored correctly • correctly undertake pricing, coding and tagging, if required • follow correct stocktaking procedures • monitor, rotate and re-order stock as required • ensure stock returns to suppliers are dispatched correctly and required documentation completed.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures. including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<ul style="list-style-type: none"> • Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • workplace policy and procedures in regard to stock control procedures • specifications • work notes • instructions or verbal direction from manager, supervisor or senior staff
Cellar door outlet	<p>A cellar door outlet is a tasting and sales operation open to the public conducted by a winemaking enterprise. The size, type and location of the sales or distribution outlet or function may vary</p>

RANGE STATEMENT	
Stock	<p>Stock may include:</p> <ul style="list-style-type: none"> wines and spirits from the cellar door company's own range wine and other products and merchandise from other producers or enterprises
Staff	<p>Staff in cellar door operation may:</p> <ul style="list-style-type: none"> be full time, part time or casual include staff who work in other areas of the enterprise
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based
Equipment	<p>Equipment may be:</p> <ul style="list-style-type: none"> electronic or manual and should include that which is required to perform stock control procedures according to workplace policies and procedures
Materials	<p>Materials may vary and may include:</p> <ul style="list-style-type: none"> sales orders internal workplace transfer documentation stock sheets
Stock recording	<p>Stock recording may be:</p> <ul style="list-style-type: none"> manual or electronic
Stocktake	<p>Stocktake may be:</p> <ul style="list-style-type: none"> cyclical or compliance driven
Stock control	<p>Cellar door stock control may include:</p> <ul style="list-style-type: none"> checking incoming or existing stock and special orders
Stock handling	<p>Stock may be moved:</p> <ul style="list-style-type: none"> manually or mechanically
Suppliers	<p>Suppliers may be:</p> <ul style="list-style-type: none"> external or internal to the enterprise (e.g. a warehouse)
Production destination	<p>Product destinations may be:</p> <ul style="list-style-type: none"> external (e.g. customers) internal to the enterprise (e.g. another department)

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDLCD2005A Sell cellar door products and services

Modification History

This unit supersedes and is equivalent to FDLCDSSPSA Sell cellar door products and services.

September 2012: updated equivalent imported pre-requisite Unit.

April 2012: Minor typographical corrections.

Unit Descriptor

<p>Unit descriptor</p>	<p>This specialist unit has been developed for the cellar door sales stream of the wine sector. It covers the skills and knowledge required to sell. It encompasses the key selling skills of approaching the customer, advising on products and services, and conducting and closing a sale.</p> <p>This unit is based on the national cross-sector sales units of competency SIRXSL001A Sell products and services, and SIRXSL002A Advise on products and services.</p>
-------------------------------	---

Application of the Unit

<p>Application of the unit</p>	<p>This unit applies to cellar door sales personnel who are required to sell wine and other products and services to cellar door visitors. Products sold may include wine and other produce grown at the cellar door site, from other company sites, and from external suppliers.</p> <p>The unit covers the skills to sell cellar door products and services through evaluation of customer needs and requirements using communication skills and detailed and specialised product knowledge of wines and other cellar door products and services, including winery tours, private tastings and facilities available to visitors.</p>
---------------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	FDFCD2003A	Evaluate wines (standard)
	SIRXCCS202	Interact with customers
	SITHFAB009A	Provide responsible service of alcohol

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<ul style="list-style-type: none"> • 1. Develop product and service knowledge 	<ul style="list-style-type: none"> • 1.1 Knowledge of the use, purpose and application of products and services is developed and maintained • 1.2 Knowledge of products and services is conveyed to other team members as required • 1.3 Comparisons between available products and services are researched and applied, including brand options, features and price • 1.4 Knowledge is developed of competitors' product and service range and pricing structure • 1.5 Experienced sales staff are consulted or product information researched to increase product and service knowledge
<ul style="list-style-type: none"> • 2. Approach customer 	<ul style="list-style-type: none"> • 2.1 Timing of customer approach is determined and applied • 2.2 Effective sales approach is identified and applied • 2.3 Positive impression is conveyed to arouse customer interest • 2.4 Knowledge of customer buying behaviour is demonstrated
<ul style="list-style-type: none"> • 3. Gather information 	<ul style="list-style-type: none"> • 3.1 Questioning techniques are applied to determine customer buying motives • 3.2 Listening skills are used to determine customer requirements • 3.3 Non-verbal communication cues are interpreted and clarified • 3.4 Customers are guided to a product range that matches their identified buying motives and requirements • 3.5 Customers are identified by name where possible
<ul style="list-style-type: none"> • 4. Sell benefits 	<ul style="list-style-type: none"> • 4.1 Customer needs are matched to appropriate products and services • 4.2 Knowledge of product or service features and benefits are communicated clearly to customers • 4.3 Specific requirements relating to products or services are described to customers • 4.5 Routine customer questions about products are answered accurately and honestly • 4.6 Customers are referred to more experienced, senior sales staff or to appropriate product specialists as required
<ul style="list-style-type: none"> • 5. Overcome objections 	<ul style="list-style-type: none"> • 5.1 Customer objections are identified and accepted • 5.2 Objections are categorised into price, time and product or service characteristics • 5.3 Solutions or alternatives are offered to customers according to workplace policy • 5.4 Problem solving is applied to overcome customer objections
<ul style="list-style-type: none"> • 6. Close sale 	<ul style="list-style-type: none"> • 6.1 Customer buying signals are monitored, identified and responded to appropriately

ELEMENT	PERFORMANCE CRITERIA
<ul style="list-style-type: none">7. Maximise sales opportunities	<ul style="list-style-type: none">6.2 tomers are encouraged to make purchase decisions6.3 opriate method of closing sale is selected and applied7.1 ortunities for making additional sales are recognised and applied7.2 tomers are advised of complementary products or services according to identified customer needs7.3 sonal sales outcomes are reviewed to maximise future sales

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify products and services, selling requirements and develop product and service knowledge
- confirm supply of necessary products and services
- liaise with other work areas
- prepare products and services as required
- identify out-of-specification products and services or non-compliance with workplace or legal requirements
- take corrective action in response to out-of-specification products or services or non-compliance with workplace or legal requirements
- report and/or record corrective action
- consistently apply appropriate and effective sales approaches. This should take into account workplace policy and procedures, customer behaviour or buying signals and other cellar door activity. The approach should include appropriate and effective:
 - timing
 - comments and questions
 - style, image and interest
 - listening techniques
 - starting point for product focus
- accurately determine customer needs and buying motives. This may include:
 - questioning techniques
 - active listening skills
 - product tasting strategy
 - observation of customer behaviour or details
- identify appropriate product or service features and match associated benefits to customer's needs
- consistently apply detailed and specialised product knowledge to provide accurate advice according to the needs of the customer. This should demonstrate consideration of the amount of detail required and appropriate terminology
- seek information from product or service resources as appropriate (e.g. specialist or experienced colleagues, other enterprise departments, product manufacturer or service provider)
- overcome customer objections. This will include:
 - accurately identifying objections (e.g. taste, style, price and delivery)
 - applying problem-solving techniques and product or services knowledge to identify

- possible solutions or alternatives
- offering solutions or alternatives for customer consideration
- close sale effectively and appropriately. This should include:
 - recognising and responding to customer buying signals
 - providing advice and encouragement to facilitate the customer’s decision to buy
 - recognising when a sale is inappropriate and using alternative techniques to ensure customer leaves with a positive image of the brand or enterprise
- maximise sales opportunities. The sales opportunities should be of the brand or enterprise products in this or other retail outlets. Activity may include:
 - recognising opportunities for additional sales through effective listening, questioning and observation techniques
 - identifying relevant complementary products or services and informing the customers when appropriate
 - conveying the appropriate brand or enterprise image at all times through presentation and behaviour
 - evaluating and proactively improving customer service and sales techniques
- handle difficult customers
- consistently apply workplace policy and procedures and industry codes of practice in regard to customer service and selling products and services
- develop, maintain and convey product and service knowledge to customers and other staff members as required
- research and make comparisons between products and services. This should include:
 - own products and services
 - products and services of appropriate competitors
 - local and regional variations
 - price
 - characteristics or style (e.g. vintage variation)
 - comparisons with key international products, if required
- record workplace information
- maintain work area to meet housekeeping standards
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- range of products and services available from the sales outlet or enterprise
- wine product features. These may include:

- product style and taste characteristics
- product awards
- vintage features or variations
- ready to drink or cellaring requirements
- appropriate food and/or occasions
- optimum serving requirements
- appropriate alternatives at varying price points
- stock availability
- comparable product of competitors
- workplace customer service features. These may include:
 - hospitality or private tastings
 - winery tours
 - facilities
 - ordering process
 - payment method and processes
 - delivery and freight options or procedures and price, including international services
 - opening times
- promotional and brand objectives of the enterprise's cellar door
- allocated duties and responsibilities
- information sources (e.g. product lists, colleagues' expertise and promotional documents)
- customer types and needs, including:
 - customer buying motives (e.g. functional and psychological)
 - buying occasions (e.g. dinner party, barbeque and/or celebration)
 - buying behaviour and clues
 - individual and cultural differences
 - demographics, lifestyle and/or income
- selling techniques, including:
 - questioning and active listening techniques
 - sales approaches
 - identifying customer needs
 - features and benefits
 - identify and overcoming objections
 - closing sales
 - maximising sales and add-on products and services
 - communication (e.g. body language, questioning and listening)
 - problem solving
- legislation and statutory requirements as they apply in the workplace, including:
 - serving or selling liquor
 - industry codes of practice
 - consumer law

- customer occupational health and safety (OHS)
- procedures and responsibility for reporting problems
- housekeeping requirements and procedures
- recording requirements and procedures
- OHS hazards and controls.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • demonstrate knowledge of range of wine, other products and services sold through cellar door • demonstrate sufficient knowledge of competitors' products and services to allow effective and positive comparison to a customer of own products and services • gather information on customer requirements • match customer requirements to appropriate type and price range of wine, other product or service • correct identification of support personnel and product specialists • close sales.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.

EVIDENCE GUIDE	
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • workplace policy and procedures in regard to selling products and services • specifications • work notes • instructions or verbal direction from manager, supervisor or senior staff
Products	<p>Products may include:</p> <ul style="list-style-type: none"> • wines and spirits and associated merchandise (e.g. corkscrews and glasses) • a range of enterprise promotional merchandise (e.g. clothing and souvenirs) • a range of regional tourism merchandise (e.g. maps, postcards, art and craft objects)
Product knowledge	Product knowledge may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • product style and characteristics • optimum serving condition • cellaring potential • storage requirements • stock availability • food and occasion matches • vintage characteristics • production techniques • price • discounts • special offers • sizes
Services knowledge	<p>Services knowledge may include:</p> <ul style="list-style-type: none"> • winery tours • opening hours • delivery or freight services • payment methods • winery newsletter and mail order facility • functions • hospitality and conference facilities
Specific requirements relating to products or services	<p>Specific requirements relating to products or services may include:</p> <ul style="list-style-type: none"> • serving • storage • safety • tour schedules • delivery costs
Team members	<p>Team members may include:</p> <ul style="list-style-type: none"> • people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Customers	<p>Customers may include:</p> <ul style="list-style-type: none"> • random visitors • regular clients, • organised groups • enterprise personnel • people from a range of social, cultural or ethnic backgrounds and physical and mental abilities. English may not be their first language. Buying or

RANGE STATEMENT	
	ordering experience and expertise may vary.
Customer service and sales	Customer service and sales may include: <ul style="list-style-type: none"> • face-to-face interaction • telephone • mail order • internet
Equipment	Equipment may be electronic or manual and should include that which is required to sell products and services according to workplace policies and procedures, and may include: <ul style="list-style-type: none"> • registers • point-of-sale terminals • scanners • EFTPOS and credit card processors
Materials	Materials may vary and should include that which is required to sell products and services according to workplace policies and procedures, and may include: <ul style="list-style-type: none"> • wine lists • promotional materials • tasting notes
Cellar door	Cellar door may vary according to: <ul style="list-style-type: none"> • size • type • location • distribution • function
Cellar door staff	Staff may: <ul style="list-style-type: none"> • be full time, part time or casual • work in other areas of the enterprise
Trading or working conditions	Trading or working conditions may be: <ul style="list-style-type: none"> • routine, busy or quiet
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFCD2006A Conduct a standard product tasting

Modification History

This unit supersedes and is equivalent to FDFCDSSTTA Conduct a standard product tasting.
 September 2012: updated equivalent imported pre-requisite Unit.
 April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	<p>This specialist unit has been developed for the cellar door sales stream of the wine industry. It covers the skills and knowledge required to prepare the product and tasting area and to conduct unsupervised standard product tastings for a variety of cellar door customers.</p> <p>Standard product tastings include routine cellar door ‘on request’ tastings from individual customers and small groups. Tastings associated with VIP itineraries, the media or pre-arranged group winery tours are covered in FDFCD3002A Conduct a specialised product tasting.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit provides the skills to plan, prepare and conduct standard product tastings include routine cellar door ‘on request’ tastings from individual customers and small groups. The unit includes providing product samples in a manner to maximise the tasting experience for the customer and answering customer queries.</p> <p>The unit can apply to the conduct of both wine and spirit tastings.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCD2003A	Evaluate wines (standard)
	SIRXCCS202	Interact with customers
	SITHFAB009A	Provide responsible service of alcohol

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<ul style="list-style-type: none"> • 1. Store and handle products 	<ul style="list-style-type: none"> • 1.1 Products are cellared and stock is rotated according to product knowledge and workplace policy • 1.2 Sediments and cork characters associated with ageing products are managed according to individual product and workplace requirements
<ul style="list-style-type: none"> • 2. Set up product tasting area 	<ul style="list-style-type: none"> • 2.1 Products are prepared for tasting using techniques according to product knowledge and workplace procedures • 2.2 Tasting equipment suitable to product and tasting requirements is prepared and placed ready for use by customers • 2.3 Adequate supplies of suitable support materials are prepared and placed ready for use
<ul style="list-style-type: none"> • 3. Conduct product tastings 	<ul style="list-style-type: none"> • 3.1 Customer preferences are established using communication techniques and support materials • 3.2 Customers are encouraged to sample preferred product range in the most beneficial order to experience product characters effectively • 3.3 Customers are given time and privacy to sample each product and make a decision • 3.4 Customers are encouraged to ask questions and/or pass opinions on products • 3.5 Customer queries are answered accurately and comprehensively, or referred to another information resource • 3.6 Common product faults are identified and any associated customer dissatisfaction is handled in a positive manner according to workplace policy and procedures
<ul style="list-style-type: none"> • 4. Serve tasting samples 	<ul style="list-style-type: none"> • 4.1 Product is opened using techniques and procedures suitable to product characteristics • 4.2 Product faults are identified and rectified and/or reported according to workplace procedures • 4.3 Product is poured and presented to the customer for tasting according to legal regulations and workplace policy • 4.4 Waste is collected and disposed of according to workplace procedures • 4.5 Work is conducted in accordance with workplace environmental guidelines
<ul style="list-style-type: none"> • 5. Maintain product in optimum condition 	<ul style="list-style-type: none"> • 5.1 Open product is maintained according to workplace procedures • 5.2 Sealed product is stored according to workplace procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify standard wine tasting and preparation requirements
- confirm supply of necessary products, equipment and materials, their status and condition as required
- liaise with other work areas
- cellar wines appropriately in readiness for tasting, according to wine style and workplace policy. This will include consideration of:
 - ultraviolet (UV) light and sunlight
 - temperature
 - humidity
 - position and cork condition
 - vibration
 - ease of access
 - pest control
 - stock rotation procedures
- prepare glasses for tasting. This should include:
 - selecting appropriate glass for product
 - cleaning appropriately (i.e. no detergent residues)
 - rejecting chipped or damaged glasses
 - polishing hygienically
 - ensuring sufficient quantity for customer requirements
 - positioning for easy access and use and to maintain cleanliness
- prepare support materials. These may include:
 - tasting notes and evaluation sheets
 - wine and spirit lists
 - background or promotional documentation
 - pens and paper
 - napkins or towels
 - corkscrews
 - white table cloth and paper
 - appropriate food and water to accompany tasting
- prepare spittoons or spit buckets. This may include:
 - cleaning and sanitising

- filling with sawdust
- prepare chilling equipment. This may include:
 - cleaning and sanitising
 - checking adequacy of supplies of ice
- complete a standard sensory evaluation of products prior to tasting
- identify out-of-specification products and materials or non-compliance with workplace standards and industry codes of practice.
- take corrective action in response to out-of-specification products or materials or non-compliance
- report and/or record corrective action as required
- apply a high standard of personal presentation. This may include:
 - personal hygiene
 - appropriate and clean clothes or uniform
- handle wines appropriately to maintain optimum wine condition. This may include consideration of:
 - age of wine
 - deposits
 - disintegrating cork
 - tartrates
- identify a wine that requires decanting
- decant a wine discreetly, taking customer perceptions into account
- identify customer's tasting preferences. This may include:
 - questioning techniques
 - active listening
 - observation techniques
 - referral to wine list
 - demonstrating an open, friendly and interested attitude
- interpret product labels and select correct wine and spirits according to requirements and/or specifications
- open product for customer tastings. This may include:
 - selecting correct product according to product list (e.g. vintage)
 - removing top section of capsule cleanly and completely
 - extracting cork cleanly and completely
 - selecting appropriate opening mechanism
 - dating the bottle
 - opening sparkling wines
- serve the product for customer tasting. This may include:
 - checking date of opening
 - assessing soundness and quality
 - decanting prior to serving
 - correct pouring technique to avoid drips

- pouring correct tasting volume
- encourage and facilitate responsible tasting by customers. This may include:
 - identifying customer tasting preferences as soon as possible and offering an appropriate selection of products to taste
 - providing a spittoon
 - providing water and/or soft drinks
 - providing food
 - pouring tasting samples according to workplace policy and procedures
- maximise the pleasure of the product tasting for the customer. This may include particular attention to:
 - serving product in optimum condition
 - selecting clean, polished glassware of appropriate style
 - providing complementary drinks or food to cleanse the palate
 - providing clean spittoons and napkins
 - providing accurate and relevant information on the products tasted appropriate to customers' needs
 - allowing the customer time and privacy to taste
 - encouraging the customer to ask questions and/or pass opinion on the product
 - identification of product faults before presenting to the customer and removal of the product from tasting
 - steering the order of tasting to allow products to be tasted in the most beneficial order
 - displaying the product label to the customer
- resolve customer complaints effectively, promptly and courteously
- maintain open product between tastings. This may include:
 - stock rotation
 - removing air from bottle and resealing
 - refrigeration
 - labelling
- shut down equipment as required
- prepare equipment for cleaning
- record workplace information
- maintain work area to meet housekeeping standards
- manually clean and sanitise equipment according to enterprise procedures
- advise on products and services according to enterprise procedures
- sell products and services according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- product range and quality characteristics
- common product faults, features, causes and the corrective action necessary
- product sensory evaluation techniques (standard)
- operating procedures for equipment and services used
- optimum cellaring conditions for a range of products (e.g. wines of varying maturity, fortified and liqueur wines, and spirits)
- preparation requirements and procedures for glasses, spittoons, chilling equipment and support materials
- product handling procedures and techniques (e.g. opening, decanting, pouring and displaying the label)
- procedures to maintain product quality between tastings
- product knowledge. This may include:
 - product style and taste characteristics
 - optimum serving requirements
 - preparation requirements
 - stock availability
 - label interpretation
- purpose and principles of standard wine tasting
- relationship of sales area to other enterprise work areas and activities
- promotional and brand objectives of the enterprise
- workplace policies and procedures on:
 - customer service
 - customer complaints
 - responsible service of alcohol
 - safe food handling
 - product storage
 - product tastings
 - personal presentation
 - stock rotation
- communication techniques, including:
 - body language
 - questioning
 - active listening
 - providing information
- available information resources (e.g. wine lists, price lists, background documentation, winemaker, brand manager, senior staff and staff with special expertise)
- occupational health and safety (OHS) hazards and controls

- procedures and responsibility for reporting problems
- housekeeping requirements and procedures
- recording requirements and procedures
- techniques for manually cleaning and sanitising equipment where relevant
- techniques for advising on products and services where relevant
- techniques for selling products and services where relevant.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • ensure appropriate cellaring and rotation of stock to maintain product quality and suitability for tastings • prepare tasting area, equipment and supplies in a manner suitable for the range of products being tasted and the number of customers in the tasting • ensure products are correctly opened, checked and served to customers • communicate effectively to customers, including finding preferences, answering questions, and adjusting tasting order or range, to facilitate customer enjoyment • demonstrate knowledge of products being tasted • resolve customer complaints effectively, promptly and courteously.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) workplace policy and procedures in regard to conducting product tastings specifications work notes instructions or verbal direction from the manager, supervisor or senior staff
Products for tasting	<p>Products for tasting may include:</p> <ul style="list-style-type: none"> wines and spirits
Product knowledge	<p>Product knowledge may include:</p> <ul style="list-style-type: none"> product style and characteristics optimum serving condition cellaring potential

RANGE STATEMENT	
	<ul style="list-style-type: none"> • storage requirements • stock availability • serving requirements • food or occasion matches • vintage characteristics • production techniques • price • discounts • special offers • sizes
Cork characters associated with ageing products	<p>Cork characters associated with ageing products may include:</p> <ul style="list-style-type: none"> • shrinkage and expansion in response to inconsistent temperature • corks drying and shrinking where wine is not kept up to the cork • natural cork deterioration through ageing and exacerbated by vermin (e.g. mice and rats) • random bottle oxidation from some corks allowing more air in than others • cork bleeding, allowing wine and oxygen transfer across the cork barrier
Management techniques and practices for corks of ageing products	<p>Management techniques and practices for corks of ageing products may include:</p> <ul style="list-style-type: none"> • maintaining a constant cool temperature in bottle storage areas • maintaining the seal by keeping bottles in an inverted position and corks wet and expanded • monitoring bottles for signs of random bottle oxidation (e.g. darkening or browning of white wine colour) or wine and oxygen transfer (e.g. wine dripping onto the floor below an imperfect seal), and crusting around the seal • undertaking assigned responsibilities in a cork maintenance program for museum wines eg submitting wines to laboratory for resealing and bottle topping • controlling vermin in the cellar door sales and bottle storage area
Tasting equipment	<p>Tasting equipment may vary and should include that which is required to prepare for and conduct a wine</p>

RANGE STATEMENT	
	<p>tasting according to workplace policy and procedures, and may include:</p> <ul style="list-style-type: none"> • spittoons • glasses • corkscrews • foil cutters • champagne cork removers • decanters • wine thermometer • stoppers or vac-u-vins
Chilling equipment	<p>Chilling equipment for product tasting may include:</p> <ul style="list-style-type: none"> • ice buckets • fridges • cool box or bag • rapid ice
Support materials	<p>Support materials may vary and should include that which is required to prepare for and conduct a wine tasting according to workplace policy and procedures, and may include:</p> <ul style="list-style-type: none"> • product information sheets • promotional materials • tasting notes • evaluation sheets • napkins • ice • water • light food • pens or markers • wine lists
Customers	<p>Customers may include:</p> <ul style="list-style-type: none"> • regular, new, external, or enterprise personnel • people from a range of social, cultural or ethnic backgrounds and physical and mental abilities. English may not be their first language. Buying or ordering experience and expertise may vary
Product faults	<p>Product faults may include:</p> <ul style="list-style-type: none"> • tartrates • oxidation

RANGE STATEMENT	
	<ul style="list-style-type: none"> • haze • cork taint • excessive sulphur • packaging defects
Cellar door outlet	Cellar door outlets may vary according to: <ul style="list-style-type: none"> • size • type • location
Team members	Team members may include: <ul style="list-style-type: none"> • people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Staff	Staff may: <ul style="list-style-type: none"> • be full time, part time or casual • work in other areas of the enterprise
Trading or working conditions	Trading or working conditions may be: <ul style="list-style-type: none"> • routine, busy or quiet
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFCD3001A Evaluate wines (advanced)

Modification History

This unit supersedes but is not equivalent to FDFCDSEVAB Evaluate wines (advanced).
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar door sales stream of the wine sector. It covers the skills and knowledge required to reach an advanced standard of wine evaluation.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to a cellar door sales operation in the wine industry. It covers in-depth knowledge of grape varieties and wine styles to a level sufficient to identify wine by grape variety, region and vintage, and the identification of specialised wine faults. The unit also covers in-depth knowledge of enterprise wine sufficient for selection of wines to match food choices, for suggestions as alternatives to overseas styles, and for provision of advice on serving and ageing.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
	FDFCD2003A Evaluate wines (standard)

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<ul style="list-style-type: none"> • 1. Identify specific wine characteristics using sensory evaluation techniques • 2. Identify specialised wine faults • 3. Compare Australian styles with key world wines • 4. Enhance consumer enjoyment of wine 	<ul style="list-style-type: none"> • 1.1 Correct tasting procedures using sight, smell and taste are followed • 1.2 Australian wine is identified by grape varieties, region and vintage • 1.3 Specific winemaking techniques are identified and discussed • 1.4 Quality evaluation is completed • 2.1 Wine is inspected and faults are identified correctly and reported • 3.1 Well known world wines are identified in terms of style and quality • 3.2 Appropriate enterprise wines are recommended as alternatives • 4.1 Appropriate enterprise wines are selected to match food choices • 4.2 Optimum ageing and serving requirements are specified

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to determine advanced wine sensory evaluation requirements
- confirm supply of necessary products, materials and equipment
- follow correct tasting procedures. This may include:
 - preparation of environment and self
 - preparation and service of wines
 - order of tasting
 - sensory evaluation techniques
 - recording and documentation techniques
- effectively carry out wine sensory evaluation to determine:
 - wine style
 - country of origin
 - region of production
 - vintage
 - winemaking techniques
 - quality
 - value for money
 - wine faults
- identify and describe evidence of specific winemaking techniques and explain their effect on wine characteristics. These may include their effect on:
 - balance of acidity on the palate
 - complexity
 - weight and mouth feel
 - alcohol
 - aromas and flavours
 - colour
 - tannin
 - fault eradication
 - length
- recommend appropriate enterprise alternatives to key Australian and world wines. These may consider:
 - price
 - style

- quality
- occasion
- select appropriate enterprise products to complement food types. This should include consideration of:
 - wine factors (primarily acidity, sweetness, intensity of flavour, alcohol, tannin and weight)
 - food factors
 - occasion
 - price
- advise on optimum serving and cellaring requirements of key enterprise, Australian and world wines. This will include consideration of specific consumer tastes and recommending:
 - cellaring time and conditions
 - decanting techniques
 - serving temperature
 - breathing and opening time
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- features and purpose of wine sensory evaluation techniques
- wine faults (features, causes and prevention or corrective action required)
- wine tasting policy, procedures and techniques
- optimum conditions for tasting wine, including:
 - environment
 - self and other people
 - equipment and glasses
 - wine preparation
- factors influencing the order in which wine should be tasted
- label terminology and meanings
- ‘trigger’ characteristics of wine that can be assessed to identify key features, including:
 - country of origin
 - region of production
 - vintage
 - winemaking and grape growing techniques
 - quality
 - value for money

- how wine is made
- common winemaking, grape growing techniques and how they can be utilised to manipulate wine style and characteristics
- key Australian and world wines and enterprise products, including their:
 - Style and taste characteristics
 - price
 - quality
- key food and wine factors that will react together and which combinations create harmony and discord
- serving and cellaring requirements of key world and Australian wines and all enterprise products
- wine factors that will determine cellaring and serving requirements, including balance of alcohol, tannin, acidity and fruit flavours
- factors that will detrimentally affect the quality of wine during cellaring, including:
 - temperature
 - humidity
 - ultraviolet (UV) light
 - vibrations
- occupational health and safety (OHS) hazards and controls
- procedures and responsibility for reporting problems
- housekeeping requirements and procedures
- recording requirements and procedures.

Evidence Guide

<p>▶ EVIDENCE GUIDE</p>	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • consistently establish appropriate conditions for tasting wines, including optimum conditions for sight, smell and taste • correctly explain specific winemaking techniques and their effect on wine characteristics • identify wines for style, grape variety, vintage, region and quality, and evaluate and explain characteristics • identify specialised wine faults • explain optimum ageing, cellaring and serving conditions for wine styles.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the function or work role.</p>

▶ EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • workplace policy and procedures in regard to evaluating wine • specifications • work notes • instructions or verbal direction from manager, supervisor or senior staff
Staff	<p>Staff may:</p> <ul style="list-style-type: none"> • be full time, part time or casual • work in other areas of the enterprise
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Equipment	<p>Equipment may vary and should include that which is required to evaluate wine according to workplace policies and procedures, and may include:</p> <ul style="list-style-type: none"> • spittoons • glasses • corkscrews

RANGE STATEMENT	
Materials	<p>Materials may vary and should include that which is required to evaluate wine according to workplace policies and procedures, and may include:</p> <ul style="list-style-type: none"> • product information sheets • tasting notes
Wine faults	<p>Wine faults may include:</p> <ul style="list-style-type: none"> • evidence of excessive sulphur dioxide • cork taint and other faults • volatile acidity • tartrate crystals • oxidation • haze • brettanomyces
Wine factors	<p>Wine factors include:</p> <ul style="list-style-type: none"> • clarity • colour type and intensity • rims versus core differentiation • alcohol (degrees or %) intensity and character of aroma and flavour • oak characteristics • complexity • residual sugar • acidity, including malolactic treatment • body • weight • mouth feel • astringency • tannin • balance • length
Winemaking and grape growing techniques	<p>Winemaking and grape growing techniques may include:</p> <ul style="list-style-type: none"> • canopy management • harvesting management • maceration • cold fermentation • barrel fermentation • oak treatment • ageing

RANGE STATEMENT	
	<ul style="list-style-type: none"> malolactic fermentation sparkling wine production methods (e.g. tank, transfer and méthode champenoise)
World wines	<p>World wines include:</p> <ul style="list-style-type: none"> France (Bordeaux, Burgundy, Champagne and Rhône) Spain (Rioja, Sherry) Germany (Liebfraumilch) Italy (Lambrusco and Chianti) Portugal (Port) New Zealand Chile South Africa California
Food factors	<p>Food factors should include:</p> <ul style="list-style-type: none"> Acidity oil or cream content ‘weight’ free proteins or rare meat hot spices sweetness alcohol content

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FD FCD3002A Conduct a specialised product tasting

Modification History

This unit supersedes and is equivalent to FDFCDSSPTB Conduct a specialised product tasting.

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar door sales stream of the wine sector. It covers the skills and knowledge required to conduct specialised wine tastings for a variety of winery customers and clients.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the preparation and conducting of specialised wine tastings as part of cellar door operations in the wine industry. The unit includes researching the needs of clients, sourcing the wine to be tasted, preparing wine and tasting equipment, conducting the tasting and providing advice and information on the wine being tasted.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FD FCD2002A	Promote wine tourism information* <i>SIRXCCS202 Interact with customers</i>
	FD FCD2006A	Conduct a standard product tasting* <i>FD FCD2003A Evaluate wines (standard)</i>

		<p><i>SIRXCCS202 Interact with customers</i></p> <p><i>SITHFAB009A Provide responsible service of alcohol</i></p>
--	--	---

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<ul style="list-style-type: none"> • 1. Prepare for specialised product tastings 	<ul style="list-style-type: none"> • 1.1 Specialised customer requirements are accurately established • 1.2 Tasting event is planned and organised • 1.3 Appropriate background research is carried out for presentation and facilities • 1.4 Support materials are prepared
<ul style="list-style-type: none"> • 2. Conduct specialised product tasting 	<ul style="list-style-type: none"> • 2.1 Information is presented according to customer requirements and workplace policy • 2.2 Products are tasted according to workplace policy and procedures and customer requirements
<ul style="list-style-type: none"> • 3. Evaluate and assess performance 	<ul style="list-style-type: none"> • 3.1 Customers are asked to participate in a review procedure, as required by workplace policy • 3.2 Self-assessment of performance is carried out in accordance with workplace procedures • 3.3 Positive and negative aspects of the way the tasting was conducted are recognised and addressed • 3.4 Feedback from customers is dealt with in accordance with workplace procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify specialised wine tasting requirements
- confirm supply of necessary products and materials
- liaise with other work areas and customers. This may include:
 - winery hospitality coordinator
 - marketing and public relations (PR)
 - winemaker
- prepare product and materials as required
- confirm equipment status and condition as required
- identify out-of-specification products and materials or non-compliance
- take corrective action in response to out-of-specification products and materials or non-compliance
- report and/or record corrective action
- apply a high standard of personal presentation. This may include:
 - personal hygiene
 - appropriate and clean clothes or uniform
- accurately identify specific customer requirements. These may include:
 - reason for tasting (e.g. commercial and hobby)
 - numbers expected
 - time of arrival and departure
 - other activity and commitments before and after
 - specific products required for tasting
 - specific information sought (e.g. production techniques and vintage characteristics)
 - common interests of group (e.g. club members)
- identify personal and enterprise objectives of tasting (e.g. product sale overseas)
- plan and organise tasting event. This may include consideration of:
 - equipment
 - materials
 - personnel skills and availability
 - product availability
 - information to research
 - expertise availability (e.g. winemakers)
 - space and seating

- facilities
- research background information to meet customer requirements. This may include a variety of information resources, including:
 - libraries
 - industry bodies (e.g. Winemakers Federation of Australia and Wine Export Council)
 - enterprise personnel (e.g. winemakers and vineyard managers)
- conduct a specialised product tasting according to workplace policy and procedures and customer requirements. This may include:
 - articulating an accurate sensory evaluation of product tasted
 - serving products in appropriate condition for specific tasting
 - identifying and removing faulty products prior to tasting
 - maintaining optimum tasting environment
 - providing customer service
 - ensuring comfort of tasters
- provide accurate and relevant information in line with customer requirements. This may include:
 - preparation and distribution of information sheets
 - delivering a presentation
 - operating visual aids effectively and professionally
 - leading and/or facilitating the product tasting
- evaluate and assess performance against customer, personal and workplace objectives. This may include:
 - seeking feedback from customers and colleagues
 - receiving negative and positive criticism
 - logging sales
 - collating results
 - writing and presenting reports
- communicate effectively and professionally. This may include:
 - verbal (e.g. face to face, telephone, individual and group communication)
 - written (e.g. leaflets, overhead projector and reports)
 - body language
 - relaying and summarising complex and technical information
- deal with customer complaints according to workplace policy and procedures
- respond sensitively to the information needs of customers from a range of cultural and social backgrounds
- respond appropriately to VIP or expert groups
- provide hospitality or other facilities in accordance with instructions
- prepare equipment for cleaning as required
- record workplace information
- maintain work area to meet housekeeping standards
- facilitate teams according to enterprise procedures

- evaluate wines (advanced) according to enterprise procedures
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of specialised wine tasting
- link to related work areas and activities
- quality characteristics of products and materials
- promotional and brand objectives of the enterprise and tasting events
- domestic and international distributors of enterprise products
- basic judging procedures for Australian Wine Awards
- international, national, regional and enterprise-specific knowledge of wine industry
- workplace policy and procedures with regard to:
 - responsible service of alcohol
 - specialised and standard product tastings
 - customer service
 - customer complaints
 - information provision and presentation
 - international and VIP guests
 - hospitality services
 - activity performance review and evaluation
- product sensory evaluation techniques and procedures
- presentation principles and techniques, including:
 - overhead projector and slide presentation
 - hand-out preparation
 - using visual aids
 - body language
 - voice projection
 - talk structure and terminology
 - questioning
 - active listening
 - summarising
- evaluation techniques and procedures
- reporting techniques and procedures
- procedures and responsibility for reporting problems
- Occupational health and safety (OHS) hazards and controls
- recording requirements and procedures
- housekeeping requirements and procedures

- team facilitation techniques where relevant
- advanced wine sensory evaluation techniques where relevant.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • properly research needs of clients • identify and prepare wines correctly, including correct temperature, wine glasses and tasting environment • identify and remove out-of-specification product • establish details on style, vintage, region and other background information on products to be tasted • ensure personal presentation is appropriate to tasting event • follow correct hygiene procedures • conduct tasting to enterprise and customer requirements • provide accurate and relevant information to clients • answer questions appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) workplace policy and procedures in regard to conducting product tastings specifications work notes instructions or verbal direction from manager, supervisor or senior staff
Customers	<p>Customers may include:</p> <ul style="list-style-type: none"> regular, new, external or enterprise personnel people from a range of social, cultural or ethnic backgrounds and physical and mental abilities. English may not be their first language. Buying and ordering experience and expertise may vary. Customers needs and requests may vary

RANGE STATEMENT	
Products	<p>Products may include:</p> <ul style="list-style-type: none"> • wines and spirits
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Equipment	<p>Equipment may be electronic or manual and should include that which is required to conduct a wine tasting according to workplace policies and procedures, and may include:</p> <ul style="list-style-type: none"> • glasses • foil cutters • corkscrews • champagne cork removers • wine thermometer • stoppers • vac-u-vin • spittoon • overhead projector • slide projector • video presenters • microphones
Materials	<p>Materials may vary and may include:</p> <ul style="list-style-type: none"> • overhead projector slides • videos • slides • tasting mats • detailed or specific product information sheets • pens and markers • napkins • wine lists • tasting notes • non-alcoholic drinks • food
Product knowledge	<p>Product knowledge may include:</p> <ul style="list-style-type: none"> • product style and characteristics • optimum serving condition • cellaring potential • storage requirements

RANGE STATEMENT	
	<ul style="list-style-type: none"> • stock availability • food and occasion matches • vintage characteristics • production techniques • price, discounts and special offers • sizes • specific knowledge to reflect customer needs and reason for tasting
Product tastings	<p>Product tastings include those associated with:</p> <ul style="list-style-type: none"> • overseas and domestic corporate buyers • internal enterprise functions • press tastings • pre-arranged winery tours of groups with a common interest (e.g. rotary clubs and wine clubs)
Product faults	<p>Product faults may include:</p> <ul style="list-style-type: none"> • tartrates • oxidation • haze • cork taint • excessive sulphur • imperfect packaging

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFCD3003A Coordinate winery hospitality activities

Modification History

This unit supersedes and is equivalent to FDFCDSWHB Coordinate winery hospitality activities.

September 2012: updated equivalent imported pre-requisite Unit.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar door sales stream of the wine sector. It covers the skills and knowledge required to plan, coordinate and evaluate winery hospitality activities. It may include facilitating teams.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the coordination of special events conducted as part of cellar door operations in the wine industry. The special events will be coordinated through the cellar door unit of the wine enterprise but may occur in the cellar door premises or partly or fully outside the cellar door (e.g. winery tours, functions using the winery or vineyard premises and grounds, or promotions outside of the winery or vineyard). The unit includes planning, conducting and evaluating hospitality events.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	SIRXCCS202	Interact with customers

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<ul style="list-style-type: none"> • 1. Identify required hospitality activities 	<ul style="list-style-type: none"> • 1.1 Enterprise promotional schedule is accurately interpreted and applied to hospitality activities • 1.2 Response to ad-hoc customer requests and bookings is undertaken according to workplace policy and procedures
<ul style="list-style-type: none"> • 2. Plan and organise hospitality activities 	<ul style="list-style-type: none"> • 2.1 Resources required to implement activities are identified, according to customer and workplace standards and objectives and legislative requirements • 2.2 Prices and services are negotiated with suppliers and customers • 2.3 Supply of necessary resources, services and prices are confirmed
<ul style="list-style-type: none"> • 3. Prepare for winery hospitality activities 	<ul style="list-style-type: none"> • 3.1 Schedule of events is prepared to ensure timely and effective implementation of activities • 3.2 Support materials are prepared or produced as required • 3.3 Team and suppliers are briefed on their roles and responsibilities
<ul style="list-style-type: none"> • 4. Implement hospitality activities 	<ul style="list-style-type: none"> • 4.1 Resources are coordinated effectively and efficiently to meet customer and workplace objectives • 4.2 Hospitality facilities are monitored and maintained according to workplace policy and procedures • 4.3 Problems and anomalies are recognised, rectified and/or reported according to workplace procedures
<ul style="list-style-type: none"> • 5. Evaluate winery hospitality activities 	<ul style="list-style-type: none"> • 5.1 Team performance is evaluated according to workplace policy • 5.2 Customer feedback is encouraged and reviewed • 5.3 Suppliers are assessed and feedback given as required • 5.4 Information is collated for the financial and promotional viability assessment • 5.5 Areas for improvement are identified and recommendations made to appropriate personnel

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify winery hospitality activity coordination requirements
- liaise with other work areas. These may include:
 - tasting area
 - restaurant
 - tour leaders
- apply a high standard of personal presentation. This may include:
 - personal hygiene
 - dress or uniform
- interpret enterprise promotional schedules. This may include identifying:
 - promotional objectives
 - dates and times
 - relevant products
- apply workplace policy, standards and procedures with regard to:
 - hospitality activities
 - customer service
 - customer complaints
 - special requests
 - supplier contracts
 - inter-departmental contracts
 - occupational health and safety (OHS) of employees and visitors
 - responsible service of alcohol
 - performance management
 - activities required
 - co-presenters
 - standards required
- respond to ad-hoc customer requests and bookings. This will include accurately identifying customer needs with regard to date, time, numbers and hospitality activities and facilities required
- apply effective communication principles and techniques, including:
 - active listening
 - questioning

- conflict and complaint resolution
- summarising
- recording details and information
- observation
- body language
- briefing and instructions
- presenting information
- plan and organise hospitality activities. This may include:
 - anticipating problems, customer needs and delays
 - problem solving
 - time management
 - negotiating and liaising with external and internal suppliers
 - interpreting legislative requirements
 - calculating and estimating required quantities and space
 - comparing and choosing quotes based on enterprise and customer objectives
 - creating flow diagrams
 - scheduling activities
 - confirming agreed contracts, provision of service with suppliers and customers
 - rostering staff
 - theft minimisation controls
- prepare support materials as required. This may include consideration of:
 - brand objectives
 - customer objectives
 - target audience
 - cost
 - time scales, and may include:
 - researching information required
 - briefing designers and printers
 - editing and proofreading
 - liaising with public relations and marketing departments
- brief team and suppliers on roles and responsibilities. This may include:
 - handover arrangements
 - workplace policy and procedures with regard to:
 - customer service
 - OHS
 - responsible service of alcohol
 - personal presentation and behaviour
 - emergency situations
- implement hospitality activities effectively to meet enterprise and customer objectives
- monitor hospitality facilities and service provision. This may include monitoring:

- cleanliness of toilets
- seating and food availability
- housekeeping and table clearing standards
- litter and waste
- OHS compliance
- staff and supplier presentation and performance
- customer behaviour
- timing
- theft opportunities
- liquor licensing compliance
- signs of antisocial behaviour and intoxication
- take corrective action in response to out-of-specification standards or non-compliance
- report and/or record corrective action as required
- solve problems and ‘think on your feet’
- identify and implement effective contingency plans
- deals with difficult customers
- evaluate winery hospitality activities. This may include:
 - seeking feedback from customers and staff
 - comparing results against objectives
 - collating costs and sales
 - reviewing own performance
- make recommendations for improvement. This may include:
 - writing reports
 - providing feedback to management, suppliers and staff
 - utilising team improvement processes
- record workplace information
- maintain work area to meet housekeeping standards
- facilitate teams according to enterprise procedures
- use improvement processes in team activities according to enterprise procedures
- conduct winery and/or site tours according to enterprise procedures
- conduct a specialised tasting according to enterprise procedures
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of winery hospitality activities
- links to related work areas and activities (e.g. cellar door, public relations (PR) and marketing)

- procedures and responsibility for reporting problems
- recording requirements and procedures
- enterprise product and service range
- enterprise and brand promotional objectives
- format and interpretation of promotional schedules
- roles and responsibilities of supporting functions
- principles and techniques for:
 - telephone, face-to-face and written communication
 - questioning
 - active listening
 - observation
 - negotiation
 - influencing and persuading
 - time management
 - scheduling
 - material preparation
 - evaluation
 - monitoring
 - receiving and providing feedback
 - performance appraisal
 - information collation
 - problem solving
 - process improvement
 - conflict resolution
 - planning and organising
 - prioritising
- basic legislative and statutory requirements as they apply in the workplace, including:
 - serving and selling liquor
 - industry codes of practice
 - consumer law
 - customer OHS
- team facilitation techniques where relevant
- improvement processes where relevant
- techniques in conducting winery and/or site tours where relevant
- techniques in conducting specialised tastings where relevant.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- correctly interpret promotional schedules to establish schedule of hospitality events
- establish resources required for hospitality event
- establish supply of services and resources appropriate to each hospitality event, including pricing
- correctly handle customer requests, bookings and ad-hoc requests
- prepare schedules, briefing notes and other support materials for staff, suppliers and guests
- conduct efficient and appropriate coordination of services, products and activities for hospitality events
- deal effectively with problems and special requests during activities
- establish evaluation procedures for customers, suppliers and staff
- use results of evaluations to improve future activities.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment as required
- work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements
- instructions, information, specifications and schedules as required
- equipment, services and corresponding information as required
- products and materials as required
- internal and external customers and suppliers as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • workplace policy and procedures in regard to coordinating winery hospitality activities • specifications • work notes • instructions or verbal direction from manager, supervisor or senior staff
Cellar door	<p>Cellar door may vary according to:</p> <ul style="list-style-type: none"> • size • type • location

RANGE STATEMENT	
Customers	<p>Customers may include:</p> <ul style="list-style-type: none"> • regular, new, external or enterprise personnel • people from a range of social, cultural or ethnic backgrounds and physical and mental abilities. English may not be their first language. Buying and ordering experience and expertise may vary. Customer needs and requests may vary
Products	<p>Products may include:</p> <ul style="list-style-type: none"> • wines and spirits and associated merchandise (e.g. corkscrews and glasses) • a range of enterprise promotional merchandise (e.g. clothing and souvenirs) • associated regional and tourism products (e.g. postcards, art and craft objects)
Team members	<p>Team members may include:</p> <ul style="list-style-type: none"> • people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
Staff	<p>Staff may:</p> <ul style="list-style-type: none"> • be full time, part time or casual • work in other areas of the enterprise
Trading and working conditions	<p>Trading and other working conditions may be:</p> <ul style="list-style-type: none"> • routine, busy or quiet
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Hospitality activities	<p>Hospitality activities may include:</p> <ul style="list-style-type: none"> • specialist tastings • winery and/or site tours • functions • dinners • festivals • races • promotions outside the winery
Suppliers	<p>Suppliers may include:</p> <ul style="list-style-type: none"> • suppliers of food and catering equipment (e.g. marquees, portable toilets, music, other entertainment, promotional material and specialist

RANGE STATEMENT	
	skills, such as first aid) <ul style="list-style-type: none"> • internal enterprise functions, such as departments or individual staff providing products, specialist knowledge, specialist tastings, winery and/or site tours
Services	Services may include: <ul style="list-style-type: none"> • power • gas • water • sewerage
Support materials	Support materials may include: <ul style="list-style-type: none"> • promotional leaflets • menus • programs • napkins
Facilities	Hospitality facilities may include: <ul style="list-style-type: none"> • toilets and washrooms • drinks • seating • refreshments and meals
Special requests	Special requests may include: <ul style="list-style-type: none"> • presentations • winemaker or senior staff member to host • particular wine and food requests • live entertainment • additional facilities • liaison with other companies

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFCEL2001A Perform oak handling activities

Modification History

This unit supersedes and is equivalent to FDFCELOAKB Perform oak handling activities.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	<p>This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to use, treat and store oak barrels and casks, stack barrels and perform minor repairs.</p> <p>Depending on the type of activities, training in confined space entry may be required to complete this unit of competency.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to cellar operations staff required to handle oak barrels in the production and storage of wine or spirits. The unit covers managing the equipment and process, monitoring and keeping of records.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units					
	<table border="1"> <tr> <td>FDFCEL2018A</td> <td>Carry out inert gas handling operations</td> </tr> <tr> <td>FDFCEL2019A</td> <td>Carry out transfer operations</td> </tr> </table>	FDFCEL2018A	Carry out inert gas handling operations	FDFCEL2019A	Carry out transfer operations
FDFCEL2018A	Carry out inert gas handling operations				
FDFCEL2019A	Carry out transfer operations				

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use oak knowledge to complete production requirements	1.1 Oak is located and identified using workplace system 1.2 Appropriate filling, emptying and topping procedures are selected 1.3 Transfer operations are used to complete production requirements
2. Treat, store and repair oak	2.1 Treatment, storage and/or repair requirements are identified 2.2 Equipment and materials are checked to ensure availability and readiness for use 2.3 Equipment is set up to meet requirements, as required 2.4 Treated oak meets specification 2.5 Stored oak meets specification 2.6 Repaired oak meets specification 2.7 Equipment is monitored to confirm operating condition as required 2.8 Out-of-specification product, process and equipment performance is identified, rectified and/or reported 2.9 Waste generated by the process is collected, treated and disposed of or recycled according to workplace procedures
3. Stack oak barrels and casks	3.1 Stacking requirements are identified and planned 3.2 Appropriate stacking method is selected 3.3 Equipment and materials are checked to ensure availability and readiness for use 3.4 Equipment is set up to meet requirements, as required 3.5 Stacked oak barrels and casks meet specification 3.6 Out-of-specification stacking is identified, rectified and/or reported 3.7 Waste generated by the process is collected, treated and disposed of or recycled according to workplace procedures 3.8 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify oak handling requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- liaise with other work areas
- prepare materials as required
- select, set up and operate equipment as required, according to instructions
- select appropriate oak handling activities and methods. This may depend on product characteristics and may include:
 - gassing barrels prior to filling
 - sparging line during emptying
 - performing oak handling activities according to instructions
 - using hand tools
- monitor oak handling activities and equipment to identify out-of-specification results or non-compliance. This may involve monitoring:
 - positioning of stack
 - securing of stack
 - condition of oak vessels
 - sequence of filling, emptying and topping of barrels
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- identify, rectify and/or report environmental non-compliance
- apply Occupational Health and Safety (OHS) principles, policies and procedures associated with confined space entry, as required
- perform routine maintenance
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of oak use in winemaking and/or spirit production
- use of oak alternatives
- link to related processes
- effect of oak storage on end product including:
 - flavour
 - body
 - complexity
 - alcohol content
- types of oak used for storage
- common faults in oak barrels and casks, which may include:
 - leaks
 - possible sources of oak contamination and effect on end product
- minor repair methods and procedures
- faults on end product
- main methods used in oak barrel and cask stacking
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- OHS hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- OHS hazards and controls associated with confined space entry as required
- manual cleaning and sanitising requirements and procedures

Evidence Guide**EVIDENCE GUIDE**

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • use personal protective clothing and equipment as required • identify use of oak product in wine making process • carry out oak treatment according to instructions • follow OHS procedures and MSDS or other instructions for use of chemicals in oak treatment • carry out minor repairs • stack and secure oak vessels according to instructions • maintain records according to requirements.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • specific transfer equipment • hand tools (e.g. hoop driver, hammer and level) • barrel shaver • sulphur burners • sulphitometers • purpose-designed barrel handling equipment
Oak	Oak may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • various barrel sizes (e.g. hogshead, puncheon, vat, barrique and quarter cask) • vats • casks and planks made of various oak types (e.g. French, German, American and Yugoslavian) • new and old oak
Stacking methods	<p>Stacking methods may include:</p> <ul style="list-style-type: none"> • pyramid style • cradle • chock • stillage
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • stillaging • chocks • cradles • sulphur dioxide • sulphuric acid • sodium hydroxide • sodium carbonate • sodium chloride • spirit and materials for repairing oak (e.g. hoops, nails, wood and cotton)
Service	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • steam • compressed air • inert gas
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances
Product to be stored in cask	<p>Product to be stored in cask may include:</p> <ul style="list-style-type: none"> • red, white or fortified wines • spirits of various ages and stages of maturity

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2002A Perform fermentation operations

Modification History

This unit supersedes and is equivalent to FDFCELFERA Perform fermentation operations.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the wine fermentation process.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to cellar operations staff operating wine fermentation processes. Preparation and checking of product, equipment and materials before fermentation is required. The unit also covers managing the fermentation process to achieve pre-set specifications, taking samples and tests, routine and emergency shutdowns, and keeping of records. The unit can apply to both manual and computer-controlled fermentation processes.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2017A	Prepare and make additions and finings

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for fermentation operations	1.1 Product and materials are confirmed and available to meet production requirements 1.2 Product and materials are prepared to meet production requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet production requirements
2. Operate and monitor fermentation operations	2.1 The fermentation process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Ferment meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Complete fermentation operations	3.1 The process is completed according to workplace procedures 3.2 Equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify must processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product and materials and services
- liaise with other work areas
- prepare product and materials as required. This may include:
 - chilling or warming must
 - making additions of finings or enzymes
 - re-yeasting
 - adding juice
- confirm equipment status and condition. This may include checking:
 - cleaning and/or sanitising requirements have been met
 - position and alignment of valves
 - integrity of door seal
- start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - fill volumes
 - programmed rotation (rotary fermenters)
 - number of pump-overs or drainer returns
 - vessel pressure
 - product loss
 - dilution
 - oxidation
 - relevant product characteristics (e.g. temperature, skin contact, moisture, fermentation activity and baumé)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- follow confined space entry policies and procedures when required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements

- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for sanitation
- identify, rectify and/or report environmental non-compliance
- perform transfer operations according to enterprise procedures
- perform sampling procedures according to enterprise procedures
- clean and sanitise according to enterprise procedures
- conduct tests according to enterprise procedures
- perform heat exchange operations according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of fermentation
- link to related processes
- stages and changes which occur during fermentation
- effect of process stages on end product
- quality characteristics and uses of fermentation product and materials
- product and materials preparation requirements and effect of variation on the process
- main methods used in fermentation operations
- techniques that may be used to manipulate the fermentation process and wine characteristics, including:
 - pressure
 - temperature
 - yeast variety or strain
 - CO₂
 - skin contact
 - type of fermentation vessel
 - additions
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used

- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls, specifically confined space entry
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- transfer operations where relevant
- sampling procedures where relevant
- cleaning and sanitation procedures
- heat exchange procedures where relevant
- testing procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare products including checks for temperature and alcoholic strength • prepare and confirm status of equipment before commencing fermentation process • monitor fermentation process control points and equipment, including taking of samples and conducting of tests

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of</p>

RANGE STATEMENT	
the item, and local industry and regional contexts) may also be included.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	Equipment may include: <ul style="list-style-type: none"> • rotary fermenters • open fermenters • potter fermenters • swept-arm fermenters • other fermentation vessels • small oak • jetting tanks • hoses and fittings • pumps
Product and materials	Product and materials may include: <ul style="list-style-type: none"> • a range of crushed grape varieties (must) • additions, including enzymes, sulphur dioxide (in various forms), acids, diammonium phosphate, yeast, tannin, bentonite and oak chips
Services	Services may include: <ul style="list-style-type: none"> • power • water • compressed air • inert gas • refrigeration
Confirming equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety

RANGE STATEMENT	
	standards and pre-start requirements are met and that equipment is operational <ul style="list-style-type: none"> checking the operation and calibration of measuring instrumentation
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> the use of production data checking temperatures, baumés, pump-overs, cap conditions and cellar instructions
Process set up, operation and monitoring functions	Process set up, operation and monitoring functions may be: <ul style="list-style-type: none"> manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> food safety (critical) quality and regulatory control points inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2003A Operate the ion exchange process

Modification History

This unit supersedes and is equivalent to FDFCELIONB Operate the ion exchange process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the ion exchange process
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the operation of ion exchange equipment used in winemaking operations. The ion exchange equipment may be used on wine or juice products. Ion exchange equipment may include sodium and acid ion exchange columns. The unit can apply to both manual and computer-controlled ion exchange equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the ion exchange process for operation	1.1 Product and materials are confirmed and available to meet ion exchange requirements 1.2 Materials are prepared to meet ion exchange requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet ion exchange requirements
2. Operate and monitor the ion exchange process	2.1 The ion exchange process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Ion exchanged product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the ion exchange process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify ion exchange requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- liaise with other work areas
- prepare materials as required
- confirm equipment status and condition
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - flow rates
 - pH levels
 - potassium levels
 - pressures
 - run times
 - resin storage
 - product loss
 - dilution
 - oxidation
 - relevant product characteristics (type)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- maintain work area to meet housekeeping standards
- identify, rectify and/or report environmental non-compliance
- handle inert gas according to enterprise procedures
- conduct tests according to enterprise procedures

- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of ion exchange
- link to related processes
- stages and changes which occur during ion exchange
- effect of process stages on end product
- quality characteristics and uses of ion exchange product and materials
- product and materials preparation requirements and effect of variation on the process
- main methods used in ion exchange
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- inert gas handling procedures where relevant
- testing procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check supply and status of product and ion exchange agents before commencing ion exchange operation • prepare and confirm status of equipment before commencing ion exchange process • monitor ion exchange process control points and equipment during ion exchange process • conduct product and batch changeovers • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	<p>This unit should be assessed together with other units of competency relevant to the function or work role. An example could be:</p> <ul style="list-style-type: none"> FDFCEL2018A Carry out inert gas handling operations.
Guidance information for assessment	<p>To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements</p>
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules or instructions routine maintenance schedules work notes, Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> sodium and acid ion exchange columns

RANGE STATEMENT	
Product and materials	Product and materials may include: <ul style="list-style-type: none"> • a range of wine and/or juice product • ion exchange agents (sodium chloride and sulphuric acid) • ion exchange resin
Services	Services may include: <ul style="list-style-type: none"> • power • water • inert gas
Confirming equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> • the use of production data
Process set up, operation and monitoring functions	Process set up, operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2004A Perform single column lees stripping (continuous still brandy) operations

Modification History

This unit supersedes and is equivalent to FDFCELLSA Perform single column lees stripping (continuous still brandy) operations.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to start up, operate and shut down a single column to strip alcohol from lees.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to lees stripping using a single column to strip alcohol from lees prior to rectification or as the first stage of alcohol recovery for brandy production from a continuous or pot still. Lees stripping must be undertaken in accordance with Customs and Excise regulations. Product and materials used may include a range of wine, low wine, wine lees or marc. Equipment may be manual or computer controlled.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2004A	Clean and sanitise equipment
	FDFOP2013A	Apply sampling procedures
	MSL973001A	Perform basic tests

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the lees stripping process for operation	1.1 Product and materials are confirmed and available to meet production requirements 1.2 Product and materials are prepared to meet production requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet production requirements
2. Operate and monitor the lees stripping process	2.1 The lees stripping process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Low wine product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification low wine product, process and equipment performance is identified, rectified and/or reported
3. Shut down the lees stripping process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify distillation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services. This may include checking temperature and alcoholic strength
- liaise with other work areas
- prepare product and materials as required. This may include heating the incoming product
- confirm equipment status and condition. This may include checking:
 - monitoring equipment
 - air pressure from compressor
 - fuel intake
 - water flow to condensers
 - receiver vessel
 - integrity of lines and fittings
- set up and start up the process. This will include any tests or procedures required to meet Customs and Excise regulations
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - wine feed
 - alcohol content of the feed
 - cooling water flow rates to condensers
 - steam input flow rates
 - volume of charge
 - temperature of low wine distillate
 - alcoholic strength of low wine distillate
 - heat source
 - reflux temperatures
 - temperature of incoming wine
 - temperatures throughout still and/or column
 - temperature and strength at take-off point
 - evaporation rates
 - charge characteristics
 - pressure of still and/or column

- condensate rate or flow
- monitor supply and flow of product, materials and services to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers
- take samples and conduct tests
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information. This will include meeting the requirements of Customs and Excise regulations
- maintain work area to meet housekeeping standards
- ensure that all Customs and Excise regulations are adhered to
- sort, collect, treat, recycle or dispose of waste according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- perform transfer operations according to enterprise procedures
- perform heat exchange operations according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of distillation, including definition of the following terms:
 - liquid
 - vapour
 - vapour pressure
 - boiling point
 - dew point
 - bubble-point
- operating principles of stripping (analyser) columns
- link to related processes. This will include the source of the product to be distilled and any further processing requirements of the low wine distillate

- stages and changes which occur during stripping operations. This will include critical temperatures and specific components affected
- effect of process stages on low wine production
- quality characteristics and uses of low wine
- product and materials preparation requirements and effect of variation on the process
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- sampling and testing procedures
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls. This will include:
 - emergency flooding procedures
 - emergency evacuation procedures
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- recording requirements and procedures
- operation of Customs and Excise regulations
- waste handling requirements and procedures where relevant
- cleaning and sanitation procedures where relevant
- routine maintenance procedures where relevant
- transfer procedures where relevant
- heat exchange procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance

EVIDENCE GUIDE	
	with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check product before commencing lees stripping operations. This may include checking temperature and alcoholic strength • prepare and confirm status of equipment before commencing lees stripping process • monitor process control points and equipment during lees stripping process • monitor feed and distillate for conformance to specifications • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • undertake routine and emergency shutdowns • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence

EVIDENCE GUIDE

should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements

Workplace information

Workplace information can include:

- Standard Operating Procedures (SOPs)
- specifications
- production schedules and instructions
- work notes
- Material Safety Data Sheets (MSDS)
- manufacturer instructions
- verbal direction from manager, supervisor or senior operator

Lees stripping equipment

Lees stripping equipment may include:

- analyser column
- pumps, lines and fittings
- valves
- flow meters
- heat exchangers
- pressure vessels
- compressors
- condensers
- receival vessels
- test equipment (e.g. hydrometers and thermometers)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • monitoring equipment
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of wine • low wine • wine lees • marc
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water (hot and cold) • steam • fuel
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts (manual or computerised) • sampling • sensory evaluation • analytical tests
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2005A Operate the pressing process

Modification History

This unit supersedes and is equivalent to FDFCELPPB Operate the pressing process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the pressing process.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cellar staff who operate pressing equipment in winemaking enterprises. Product may include a range of crushed grape varieties (must) and whole fruit bunches, and materials. The pressing process may include making additions and finings. Presses may include basket press, horizontal hydraulic press, horizontal screw press, continuous screw press and pneumatic press. The unit can apply to both manual and computer-controlled leaf filter and lees filter equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the pressing process for operation	1.1 Product and materials are confirmed and available to meet pressing requirements 1.2 Product and materials are prepared to meet pressing requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet pressing requirements
2. Operate and monitor the pressing process	2.1 The pressing process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Pressed product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the pressing process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify pressing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product and materials and services
- liaise with other work areas
- confirm equipment status and condition. This may include checking for:
 - exposed or reactive metal parts
 - lubricating or hydraulic fluid leaks
 - screen fit and condition
 - bag and/or screw fit and condition
 - receival vessels and must processing operations (availability and schedule)
 - setting speed of screw
 - attaching hoses and/or opening valves
 - setting pumps and lines from collection trays into receival tanks
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - press program
 - press pressure
 - pressing effectiveness
 - dosage of additions
 - product loss
 - dilution
 - oxidation
 - speed of screw
 - free run quality and/or flow
 - inclines quality and/or flow
 - pressings quality and/or flow
 - relevant product characteristics (marc moisture, solids content and press fractions)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers

- follow confined space entry policies and procedures when required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance
- take samples according to enterprise procedures
- prepare and make additions and finings according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- handle inert gas according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of pressing
- link to related processes
- stages and changes which occur during pressing
- effect of process stages on end product
- quality characteristics and uses of pressing product and materials (e.g. grape variety)
- product and materials preparation requirements and effect of variation on the process
- main methods used in pressing
- pressing techniques that may be used to manipulate the characteristics of the wine. These may include:
 - degree of pressing and/or pressure
 - blending and/or separating free run juice from first and later pressings
 - press type (e.g. bladder versus screw)
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls, specifically confined space entry
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- sampling techniques where relevant
- preparing and making additions and finings where relevant
- cleaning and sanitising procedures where relevant
- inert gas handling procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check supply and status of product, additions and finings before operating press • check pressing equipment status and condition before commencing operation • monitor pressing process control points and equipment during pressing • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • sort, collect, treat, recycle or dispose of waste • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules or instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> basket press horizontal hydraulic press horizontal screw press

RANGE STATEMENT	
	<ul style="list-style-type: none"> • continuous screw press • pneumatic press
Product and materials	Product and materials may include: <ul style="list-style-type: none"> • a range of crushed grape varieties (must) • whole fruit bunches • additions, including sulphur dioxide and pressing aids (e.g. cellulose and grape stalks)
Services	Services may include: <ul style="list-style-type: none"> • power • water • compressed air • inert gas • steam
Confirming equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> • the use of production data
Process set up, operation and monitoring	Process set up, operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2006A Operate clarification by separation (centrifugation) process

Modification History

This unit supersedes and is equivalent to FDFCELCSB Operate clarification by separation (centrifugation) process.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the clarification by separation (centrifugation) process.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cellar operations of a winemaking enterprise. It covers the set up, operation, monitoring, shutdown and cleaning of centrifugation equipment to clarify wine. The unit also covers the collection, treatment or disposal of waste generated by the centrifugation process. The unit applies to equipment controlled manually and through process control equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2018A	Carry out inert gas handling operations
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the clarification by separation (centrifugation) process for operation	1.1 Product is confirmed and available to meet clarification requirements 1.2 Product is prepared to meet clarification requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet clarification requirements
2. Operate and monitor the clarification by separation (centrifugation) process	2.1 The clarification by separation (centrifugation) process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Clarified product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the clarification by separation (centrifugation) process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify clarification requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product and services
- liaise with other work areas
- prepare product as required
- confirm equipment status and condition. This may include:
 - checking integrity of pumps and lines
 - checking hygiene and sanitation standards are met
 - gassing receival tank
 - checking product to be clarified against specification
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - flow rate
 - desludge settings (frequency, duration, type, ratios and displacement)
 - pressures
 - motor load (amperage)
 - process control devices (self-thinker, electronically programmed emission (EPTE), photocell and monitek)
 - product loss
 - dilution
 - oxidation
 - relevant product characteristics (turbidity, solids content and type)
- monitor supply and flow of product to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment,

and removing waste either manually or by rinsing, in preparation for cleaning and sanitation

- identify, rectify and/or report environmental non-compliance
- conduct tests according to enterprise procedures
- take samples according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of clarification by separation (centrifugation)
- link to related processes
- stages and changes which occur during clarification by separation (centrifugation)
- effect of process stages on end product
- quality characteristics and uses of clarified product
- product preparation requirements and effect of variation on the process
- main methods used in clarification by separation (centrifugation)
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- testing procedures where relevant
- sampling procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • check and prepare product for centrifugation • check and confirm readiness of equipment before operation • start centrifugation equipment correctly • monitor centrifugation process control points for performance against specifications • take appropriate corrective action for out-of-specification process and equipment performance • collect waste and store, treat or dispose of appropriately • use personal protective equipment and follow other OHS procedures • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules and instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include a range of centrifugal separators, including:</p> <ul style="list-style-type: none"> associated in-line equipment, such as brush strainers, hydro-cyclones and constant pressure valves

RANGE STATEMENT	
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> product to complete clarification by separation (centrifugation), including juice, fortified product, red wine post-fermentation, ferments post settling and sparkling product
Services	<p>Services may include:</p> <ul style="list-style-type: none"> power water compressed air inert gas
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational checking the operation and calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> the use of production data, such as performance control charts
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> food safety (critical) quality and regulatory control points inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2007A Prepare and monitor wine cultures

Modification History

This unit supersedes but is not equivalent to FDFCELCULA Propagate and maintain wine cultures.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare and monitor yeast and bacterial cultures used in wine production.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to staff of wine enterprises who propagate and maintain yeast and/or bacterial cultures used in wine production. The unit also applies to the use of the cultures to inoculate product according to set specifications.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	FDFCEL2019A	Carry out transfer operations
---------------------------	-------------	-------------------------------

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for inoculation	1.1 Propagation requirements are identified and confirmed 1.2 Yeast and bacteria cultures are prepared for use 1.3 Product and materials are confirmed and available to meet propagation requirements 1.4 Product is prepared to meet specified propagation requirements 1.5 Services are confirmed as available and ready for operation
2. Prepare equipment for culture preparation	2.1 Cleaning and sterilising equipment is checked to confirm readiness for use 2.2 Propagation equipment is selected, cleaned and sterilised according to workplace procedures 2.3 Transfer equipment is selected, cleaned and sterilised as required
3. Maintain and monitor the propagation process	3.1 Transfer operations are conducted to meet propagation requirements 3.2 The culture propagation process is conducted according to workplace procedures 3.3 Ferments are inoculated according to workplace procedures 3.4 Control points are monitored to confirm performance is maintained within specification 3.5 Equipment is monitored to confirm operating condition 3.6 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
4. Complete propagation activities	4.1 The propagation process is completed according to workplace procedures 4.2 Equipment is dismantled and prepared for cleaning 4.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 4.4 Work is conducted in accordance with workplace environmental guidelines
5. Record information	5.1 Workplace information recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify culture propagation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- liaise with other work areas
- prepare product and materials as required. This may include:
 - racking clear juice
 - centrifuging juice
 - filtering juice
 - heating and cooling juice
 - preparing and making additions
 - preparing yeast
 - inoculating ferment
 - air sparging
- confirm equipment status and condition. This may include checking:
 - cleaning and/or sterilisation requirements have been met
 - position and alignment of valves
 - integrity of door seal
- start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve sampling and checking:
 - baumé
 - temperature
 - dips
 - contamination
 - product loss
 - dilution
 - relevant juice or wine characteristics
 - culture characteristics
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers

- follow confined space entry policies and procedures when required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for sanitation
- identify, rectify and/or report environmental non-compliance
- carry out routine maintenance
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of propagating wine yeast and bacterial cultures
- relationship of propagation to alcoholic and malolactic fermentation
- stages and changes which occur during culture propagation
- effect of process stages on end product
- quality characteristics and uses of wine yeast and bacterial cultures
- product and materials preparation requirements and effect of variation on the process
- main methods used in culturing yeast and bacteria for wine production
- the fermentation reaction for yeast and bacterial cultures
- techniques that may be used to manipulate the propagation process and wine characteristics, including:
 - temperature
 - yeast variety or strain
 - baumé
 - additions
 - pH
 - oxygen
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls, specifically confined space

entry

- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- routine maintenance procedures
- aseptic techniques

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check and prepare product and any additions, including check of quality of wine yeast and bacterial cultures before use • check and confirm readiness of equipment before operation • start inoculation process correctly • monitor inoculation process control points for performance against specifications • take appropriate corrective action for out-of-specification process and equipment performance • collect waste and store, treat or dispose of appropriately • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • propagation vessels • storage vessels

RANGE STATEMENT	
	<ul style="list-style-type: none"> • sparging unit • sterile filtration equipment • pasteurisers • hoses and fittings • pumps • dosing equipment • mixers • testing equipment (e.g. baumé hydrometer, cylinder and thermometer)
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • grape juice • wine • tirage • additions, including sulphur dioxide, acids, hydrogen peroxide, diammonium phosphate, active dry wine yeast, starter cultures, malolactic cultures, vitamins, and liquid or granulated sugar
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • steam • compressed air • inert gas
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data • sampling • checking baumé and temperature • visual inspection
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system

RANGE STATEMENT	
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2008A Perform dual column distillation (continuous still brandy) operations

Modification History

This unit supersedes and is equivalent to FDFCELDCDA Perform dual column distillation (continuous still brandy) operations.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to start up, operate and shut down the dual column distillation process for the purpose of brandy production.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to cellar operations staff engaged in the production of brandy using dual column distillation equipment. It covers managing the equipment and process, taking samples and tests, routine and emergency shutdowns, and keeping of records. A working knowledge of Customs and Excise regulations is also required. The unit can apply to both manual and computer-controlled distillation processes.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2004A	Perform single column lees stripping (continuous still brandy) operations
	FDFCEL2012A	Handle spirits

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the dual column distillation process for operation	1.1 Product and materials are confirmed and available to meet production requirements 1.2 Product and materials are prepared to meet production requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet production requirements
2. Operate and monitor the dual column distillation process	2.1 The dual column distillation process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Distillate meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification distillate, process and equipment performance is identified, rectified and/or reported
3. Shut down the distillation process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify distillation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services. This may include checking temperature and alcoholic strength
- liaise with other work areas
- prepare product and materials as required. This may include heating the incoming product
- confirm equipment status and condition. This may include checking:
 - monitoring equipment
 - air pressure from compressor
 - fuel intake
 - water flow to condensers
 - receiver vessel
 - integrity of lines and fittings
- set up and start up the process. This will include any tests or procedures required to meet Customs and Excise regulations
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - alcohol in the feed
 - cooling water flow rates to condensers
 - volume of charge
 - temperature of distillate
 - alcoholic strength of distillate
 - heat source
 - reflux temperatures
 - temperature of incoming wine
 - temperature throughout still and/or column
 - temperatures and strengths at take-off points
 - containers for heads, hearts and tails
 - evaporation rates
 - change characteristics
 - pressure of still and/or column
 - condensation rate and/or condensation flow

- monitor supply and flow of product, materials and services to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers
- take samples and conduct tests
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information. This will include meeting the requirements of Customs and Excise regulations
- maintain work area to meet housekeeping standards
- ensure that all Customs and Excise regulations are adhered to
- sort, collect, treat, recycle or dispose of waste according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- carry out transfer operations according to enterprise procedures
- perform heat exchange operations according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of dual column distillation
- types and operation of distillation systems used for brandy production, including pot stills and continuous stills and the critical differences between them. This should include:
 - structure and operation
 - affect on characteristics of end product, including flavour, aromas, alcohol content, complexity and smoothness
- link to related processes. This will include the fermentation and preparation of the product to be distilled, oak maturation, storage and any further processing requirements of the distillate
- stages and changes that occur during brandy distillation. This will include critical temperatures and specific components affected
- effect of process stages on distillate
- quality characteristics and uses of brandy and brandy spirit
- product and materials preparation requirements and effect of variation on the process

- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- sampling and testing procedures
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls. This will include:
 - the dangerous properties of ethyl alcohol
 - emergency flooding procedures
 - emergency evacuation procedures
 - handling procedures of spirits
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- recording requirements and procedures
- operational knowledge of Customs and Excise regulations
- waste handling requirements and procedures where relevant
- cleaning and sanitation procedures where relevant
- routine maintenance procedures where relevant
- transfer procedures where relevant
- heat exchange procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate	Evidence of ability to: <ul style="list-style-type: none"> • use personal protective equipment and follow other

EVIDENCE GUIDE	
competency in this unit	<p>specified OHS procedures</p> <ul style="list-style-type: none"> • prepare products, including checks for temperature and alcoholic strength • prepare and confirm status of equipment before distillation • monitor distillation process control points and equipment, including taking of samples and conducting of tests • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information is recorded.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	<p>This unit should be assessed together with other units of competency relevant to the function or work role.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Dual column distillation equipment	<p>Dual column distillation equipment may include:</p> <ul style="list-style-type: none"> • analyser column • rectifier column • pumps • lines and fittings • valves • flow meters • heat exchangers • pressure vessels • compressors • condensers • receival vessel • test equipment (e.g. hydrometers and thermometers) • monitoring equipment
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of wine, low wines and fuel
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water (hot and cold)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • steam • fuel
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts (manual or computerised) • sampling • sensory evaluation • analytical tests
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2009A Perform first distillation (pot still brandy) operations

Modification History

This unit supersedes and is equivalent to FDFCELFDA Perform first distillation (pot still brandy) operations.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to start up, operate and shut down a pot still for low wine production.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to cellar operations staff required to operate a pot still for the first distillation of the input wine product. The distillate or low wine must meet pre-set specifications. The unit covers managing the distillation equipment and process, taking samples and tests, routine and emergency shutdowns, and keeping of records. A working knowledge of Customs and Excise regulations is also required. The unit can apply to both manual and computer-controlled pot still distillation processes.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2013A	Apply sampling procedures
	MSL973001A	Perform basic tests

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the first distillation process for operation	<ul style="list-style-type: none">1.1 Product and materials are confirmed and available to meet production requirements1.2 Product and materials are prepared to meet production requirements1.3 Services are confirmed as available and ready for operation1.4 Equipment is checked to confirm readiness for use1.5 The process is set to meet production requirements
2. Operate and monitor the first distillation process	<ul style="list-style-type: none">2.1 The first distillation process is started up according to workplace procedures2.2 Control points are monitored to confirm performance is maintained within specification2.3 Low wine meets specification2.4 Equipment is monitored to confirm operating condition2.5 Out-of-specification distillate, process and equipment performance is identified, rectified and/or reported
3. Shut down the distillation process	<ul style="list-style-type: none">3.1 The process is shut down according to workplace procedures3.2 Equipment is dismantled and prepared for cleaning3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	<ul style="list-style-type: none">4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify distillation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services. This may include checking temperature and alcoholic strength
- liaise with other work areas
- prepare product and materials as required. This may include:
 - heating the incoming product
 - surveying vessel to be distilled
 - taking dips of distillation product
 - testing distillation product
- confirm equipment status and condition. This may include checking:
 - pot is empty
 - discharge valve is shut
 - water flow to condensers
 - receiver vessels for low wine
 - pump operation
 - integrity of lines and fittings
- set up and start up the process. This will include any tests or procedures required to meet Customs and Excise regulations
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - cooling water flow rates to condensers
 - volume of charge
 - temperature of distillate
 - alcoholic strength of distillate
 - heat source
 - receiver for low wine
 - pressure of still
 - condensate rate or flow
- monitor supply and flow of product, materials and services to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers

- take samples and conduct tests
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information. This will include meeting the requirements of Customs and Excise regulations
- maintain work area to meet housekeeping standards
- ensure that all Customs and Excise regulations are adhered to
- sort, collect, treat, recycle or dispose of waste according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- perform transfer operations according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of batch distillation, including definition of the following terms:
 - pot still
 - charge
 - first distillation
 - low wine
 - feints
 - volatile wine components
- types and operation of distillation systems for brandy production, including pot stills and continuous stills and the critical differences between them. This should include:
 - structure and operation
 - effect on characteristics of end product, including flavour, aromas, alcohol content, complexity and smoothness
- link to related processes. This will include the yeasts and fermentation techniques used to make distillation wines, storage and handling of low wine, and distillation of low wine to brandy
- stages and changes which occur during first distillation. This will include changes in alcoholic strength and speed of distillation
- effect of process stages on different fractions of the distillate
- quality characteristics (specifications) for low wine product

- product and materials preparation requirements and effect of variation on the process
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- sampling and testing procedures
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls. This will include:
 - emergency flooding procedures
 - emergency evacuation procedures
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- recording requirements and procedures
- the operation of Customs and Excise regulations
- waste handling requirements and procedures where relevant
- routine maintenance procedures where relevant
- transfer procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare products, including checks for temperature and alcoholic strength

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • prepare and confirm status of equipment before commencing distillation • monitor distillation process control points and equipment, including taking of samples and conducting of tests • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • demonstrate knowledge of OHS hazards, controls and emergency procedures • adhere to Customs and Excise regulations • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Distillation equipment	<p>Distillation equipment may include:</p> <ul style="list-style-type: none"> • pot still • pumps • lines and fittings • valves • heat exchangers • condensers • brandy ball • receival vessels • temperature controls • test equipment (e.g. hydrometers and thermometers)
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of wine and low wines
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water (hot and cold) • steam
Confirming equipment	Confirming equipment status involves:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the calibration status of measuring instrumentation
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> • the use of production data, such as speed control sheets • sampling • analytical tests
Process set up, operation and monitoring functions	Process set up, operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2010A Operate the fine filtration process

Modification History

This unit supersedes and is equivalent to FDFCELFFPB Operate the fine filtration process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the fine filtration process.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to cellar operations staff operating fine filtration equipment. Preparation and checking of the product to be filtered is covered including, where required, pre-filtering. The unit also covers checking and monitoring of equipment, including filter membranes and cartridges, and ensuring appropriate levels of sanitisation or sterilisation. The unit requires operating the fine filtration process to achieve pre-set specifications, taking samples and tests, routine and emergency shutdowns, and keeping of records. The unit can apply to both manual and computer-controlled fine filtration processes.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the fine filtration process for operation	1.1 Product is confirmed and available to meet filtration requirements 1.2 Product is prepared to meet filtration requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet filtration requirements
2. Operate and monitor the fine filtration process	2.1 The fine filtration process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Filtered product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the fine filtration process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify filtration requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product and services
- liaise with other work areas
- prepare product as required. This may include pre-filtering product to meet turbidity parameters of membrane
- confirm equipment status and condition. This may include:
 - conditioning membrane and/or cartridges prior to use
 - confirming operation of housing vents
 - checking integrity of 'o' ring seals on filter and/or membrane housing and/or plates
 - ensuring sanitation or sterilisation requirements have been met
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - type and grade of filter media
 - taints in filter media
 - level of dilution and product loss
 - product integrity
 - filter integrity
 - blockages in air filter
 - product displacement from filter
 - pressure differential
 - filter pressure
 - relevant product characteristics
- monitor supply and flow of product to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards

- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance
- conduct tests according to enterprise procedures
- perform transfer operations according to enterprise procedures
- handle inert gas according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of fine filtration
- link to related processes
- stages and changes which occur during fine filtration
- effect of process stages on end product
- quality characteristics and uses of fine filtration product
- product preparation requirements and effect of variation on the process
- main methods used in fine filtration
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- testing procedures where relevant
- routine maintenance procedures where relevant
- transfer procedures where relevant
- inert gas handling procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare product for fine filtering, including any pre-filtering • prepare and confirm status of membranes, filters and other equipment before commencing fine filtration process • monitor fine filtration process control points and equipment, including checking for blockages, filter integrity and taints • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • identify, rectify and/or report environmental non-compliance • handle and/or remove waste in accordance with specified procedures • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality

EVIDENCE GUIDE	
	and environmental requirements <ul style="list-style-type: none"> • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules

RANGE STATEMENT	
	<ul style="list-style-type: none"> • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • various filters using pad and membrane (sheet or cartridge) filter media • cross-flow micro filtration • sparging units • pumps • lines and fittings
Product	<p>Product may include:</p> <ul style="list-style-type: none"> • product to complete fine filtration, including a range of juice and/or wine products
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • gas • compressed and instrumentation air • steam and water
Confirming equipment status	<p>Confirming equipment status involve:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data • checking turbidity and dissolved oxygen • filter integrity • bubble point tests • pressures
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p>

RANGE STATEMENT	
	<ul style="list-style-type: none">• food safety (critical)• quality and regulatory control points• inspection points
Information systems	Information systems may be: <ul style="list-style-type: none">• print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none">• chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2011A Perform heat exchange operations

Modification History

This unit supersedes and is equivalent to FDFCELHECB Perform heat exchange operations. April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the heat exchange process.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the operation of heat exchange equipment used in winemaking operations. The heat exchange equipment may be used on wine, juice product or water. Heat exchange equipment includes equipment used for refrigeration and pasteurisation. The unit can apply to both manual and computer-controlled heat exchange equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the heat exchange process for operation	1.1 Product and materials are confirmed and available to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The process is set to meet production requirements
2. Operate and monitor the heat exchange process	2.1 The heat exchange process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Heat exchanged product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the heat exchange process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify heat exchange requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- liaise with other work areas
- confirm equipment status and condition. This may include:
 - cleaning lines and receival tanks
 - checking receival vessel (in transfer operation)
 - checking product against processing specification
 - checking integrity of hoses and fittings
 - checking for leaks of chiller medium
 - setting temperature and tank number
 - setting pump speed
- start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - flow rate
 - inlet and outlet temperatures
 - heat exchange temperature settings
 - product loss
 - dilution
 - oxidation
 - relevant product characteristics (e.g. type and temperature)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- conduct product or batch changeovers
- report and/or record corrective action as required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation

- identify, rectify and/or report environmental non-compliance
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of heat exchange operations
- types and operation of refrigerant systems
- link to related processes
- stages and changes which occur during heat exchange
- effect of process stages on end product
- quality characteristics and uses of heat exchanged product
- product and materials preparation requirements and effect of variation on the process
- main methods used to heat exchange product
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the

EVIDENCE GUIDE	
performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check supply and status of product before commencing heat exchange operation • prepare and confirm status of equipment, including lines, vessels, hoses, valves and fittings before commencing heat exchange process • monitor heat exchange process control points and equipment • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.

EVIDENCE GUIDE	
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • a range of heat exchange units, including tube-in-tube (including pasteurisers), plate, scraped surface, in-place, counter current, primary and/or secondary refrigeration
Product and materials	Product and materials may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> a range of wine and/or juice product and water
Services	<p>Services may include:</p> <ul style="list-style-type: none"> power water (hot and cold) compressed air inert gas refrigerant steam liquefied petroleum gas (LPG)
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational checking the operation and calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> the use of production data checking tank levels, flow rates, incoming temperatures and outgoing temperature
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> food safety (critical) quality and regulatory control points inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2012A Handle spirits

Modification History

This unit supersedes but is not equivalent to FDFCELHSB Handle spirits.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to handle spirits to standards set by the Australian Taxation Office (ATO).
------------------------	---

Application of the Unit

Application of the unit	This unit applies to cellar operations staff in a wine or spirit making enterprise. Spirit handling may be carried out as part of spirit production, wine de-alcoholising, spirit transfers, spirit maturation and fortification.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use spirit knowledge to complete production requirements	1.1 Spirit is located and identified using workplace system 1.2 Spirit handling and storage requirements are identified 1.3 Equipment is checked to ensure availability and readiness for use 1.4 Equipment is set up to meet requirements, as required 1.5 Equipment is monitored to confirm operating condition as required 1.6 Out-of-specification product, process and equipment performance is identified, rectified and/or reported 1.7 Drainings are collected, treated, disposed of or recycled according to workplace procedures and ATO requirements 1.8 Work is conducted in accordance with workplace environmental guidelines
2. Record information	2.1 Workplace information is recorded in the appropriate format to meet ATO requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify spirit handling requirements
- select, fit and use personal protective clothing and/or equipment
- identify and promptly respond to hazardous situations and emergencies
- confirm supply of necessary services
- liaise with other work areas
- identify and select appropriate spirit handling procedures consistent with workplace procedures and ATO requirements
- select, set up and operate equipment as required
- monitor spirit handling activities and equipment to identify out-of-specification results or non-compliance. This may involve monitoring:
 - product loss and dilution
 - relevant product characteristics (e.g. classification, temperature, strength and volume)
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- sort, collect, treat, recycle or dispose of drainings
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- identify, rectify and/or report environmental non-compliance
- take samples according to enterprise procedures
- carry out routine tests according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of spirit use in winemaking

- fortified wine styles and their production
- properties of different types of spirit
- spirit classifications
- link to related processes
- role and requirements of ATO in the control of spirit
- sampling and testing procedures
- methods used in spirit maturation
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls, in particular, requirements for handling of flammable liquids
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns as required
- drainings handling requirements and procedures
- recording requirements and procedures
- sampling procedures where relevant
- testing procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • use personal protective equipment • follow other specified OHS procedures for handling flammable liquids

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • locate and select spirit appropriate for purpose • select correct equipment for spirit and purpose • identify out of specification product, process or equipment and take action according to procedures • collect drainings and take action according to enterprise procedures and ATO requirements • demonstrate knowledge of ATO role and requirements.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work

RANGE STATEMENT	
environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Spirit Standards (strength determination, volume conversion and litres of alcohol conversion) • Standard Operating Procedures (SOPs) • Specifications • ATO Factsheets, • production schedules and instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • flame proof pumps • flame proof lighting • earthing equipment • protective mechanisms (e.g. signage, ventilation system, public address system, spillage containment devices and fire equipment) • specific testing equipment (e.g. thermometer and alcoholometer)
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • compressed air
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2013A Operate the pressure leaf filtration process

Modification History

This unit supersedes and is equivalent to FDFCELPLFB Operate the pressure leaf filtration process.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the pressure leaf filtration process.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cellar staff in winemaking enterprises who use a leaf filtration process to filter wine, juice product or water using a range of filter media, including diatomite, perlite, cellulose and polyethylene. Filters may be pressure leaf filters or pressure lees filters. The unit can apply to both manual and computer-controlled leaf filter and lees filter equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2018A	Carry out inert gas handling operations
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the pressure leaf filtration process for operation	1.1 Product and materials are confirmed and available to meet filtration requirements 1.2 Product and materials are prepared to meet filtration requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet filtration requirements
2. Operate and monitor the pressure leaf filtration process	2.1 The pressure leaf filtration process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Filtered product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the pressure leaf filtration process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify filtration requirements
- select, fit and use personal protective clothing and/or equipment

- confirm supply of necessary product, materials and services
- liaise with other work areas
- prepare product and materials as required. This may include:
 - pre-mixing filter media according to instructions
 - loading filter media into dosing or earth tub
- confirm equipment status and condition. This may involve checking:
 - screen fit and condition
 - receipt vessel capacity and readiness
 - product to be filtered against specifications
 - operation of dosage pump
 - pre-coating filter with product or water
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - filter pressures
 - flow rate
 - media type or grade
 - dosage of bodyfeed
 - product loss
 - dilution
 - oxidation
 - screen integrity
 - relevant product characteristics (e.g. turbidity, solids content and type)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- prepare and make additions and finings according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of pressure leaf filtration
- link to related processes
- stages and changes which occur during pressure leaf filtration
- effect of process stages on end product
- quality characteristics and uses of filtered product
- product and materials preparation requirements and effect of variation on the process
- main methods used in pressure leaf filtration
- effects of setting or manipulating filtration process on end product characteristics
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- testing procedures where relevant
- routine maintenance procedures where relevant
- procedures for preparing and making additions and finings where relevant

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment

EVIDENCE GUIDE	
Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check supply and status of product and filter media before operating filter • check filter equipment status and condition before commencing operation • monitor filter process control points and equipment during filtration process • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • a range of pressure leaf filters and pressure lees filters
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of wine and/or juice product and water • a range of filter media, including diatomite, perlite, cellulose and polyethylene
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power

RANGE STATEMENT	
	<ul style="list-style-type: none"> • water • compressed air • inert gas
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data • checking turbidity and dissolved oxygen
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2014A Operate the rotary vacuum filtration process

Modification History

This unit supersedes and is equivalent to FDFCELRVFB Operate the rotary vacuum filtration process.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the rotary vacuum filtration process.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cellar staff in winemaking enterprises who use a rotary vacuum filtration process to filter juice product or wine using a range of filter media, including diatomite, perlite, cellulose and polyethylene. The unit can apply to both manual and computer-controlled rotary vacuum filter equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2018A	Carry out inert gas handling operations
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the rotary vacuum filtration process for operation	1.1 Product and materials are confirmed and available to meet filtration requirements 1.2 Product and materials are prepared to meet filtration requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet filtration requirements
2. Operate and monitor the rotary vacuum filtration process	2.1 The rotary vacuum filtration process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Filtered product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the rotary vacuum filtration process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify filtration requirements

- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- liaise with other work areas
- prepare product and materials as required. This may include:
 - pre-mixing product tank to distribute solids evenly
 - pre-coating filter drum surface
- confirm equipment status and condition. This may involve checking the screen or cloth condition and receipt vessels
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - filter vacuum
 - flow rate
 - media type or grade
 - precoat slurry
 - precoat discharge
 - product loss
 - dilution
 - oxidation
 - relevant product characteristics (e.g. turbidity, solids content and type)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance
- clean and sanitise equipment according to enterprise procedures
- take samples according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of rotary vacuum filtration
- link to related processes
- stages and changes which occur during rotary vacuum filtration
- effect of process stages on end product
- quality characteristics and uses of rotary vacuum filtration product
- product and materials preparation requirements and effect of variation on the process
- main methods used in rotary vacuum filtration
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance

EVIDENCE GUIDE	
	with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check supply and status of product and filter media before operating filter • assess need for and undertake any required pre-mixing of product tank and coating of drum • check rotary vacuum filter equipment status and condition before commencing operation • monitor rotary vacuum filter process control points and equipment during filtration process • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures. including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of

EVIDENCE GUIDE	
	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • a range of rotary vacuum filters
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of juice and/or wine product • a range of filter media, including diatomite, perlite, cellulose and polyethylene
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • compressed air • inert gas

RANGE STATEMENT	
	<ul style="list-style-type: none"> vacuum
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational checking the operation and calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> the use of production data
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> food safety (critical) quality and regulatory control points inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2015A Perform must draining operations

Modification History

This unit supersedes and is equivalent to FDFCELMDA Perform must draining operations.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate must draining operations prior to pressing.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cellar operations staff who drain the freshly pressed juice from the must in preparation for fermentation. The unit covers the set up of equipment, monitoring draining, dealing with non-conformances and appropriate handling of waste. Equipment may be manual or computer controlled.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for must draining operations	1.1 Product and materials are confirmed and available to meet production requirements 1.2 Product and materials are prepared to meet production requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet production requirements
2. Operate and monitor must draining operations	2.1 The must draining process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3. Must meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Complete must processing operations	3.1 The process is shut down according to workplace procedures 3.2 Equipment prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.4 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify draining requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- liaise with other work areas
- prepare product and materials as required. This may include:
 - checking receival vessels
 - maintaining gas cover for skin separation
 - gassing empty drainer prior to product entry
- confirm equipment status and condition. This may include checking:
 - screen fit and condition
 - press and crushing operations
 - cleaning and/or sanitisation requirements have been met
 - position or alignment of valves
 - integrity of door seal
- start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - draining effectiveness
 - product loss
 - dilution
 - oxidation
 - relevant product characteristics (e.g. skin contact and moisture)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- follow confined space entry policies and procedures when required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment,

- and removing waste either manually or by rinsing, in preparation for sanitation
- identify, rectify and/or report environmental non-compliance
- clean and sanitise equipment according to enterprise procedures
- take samples according to enterprise procedures
- make additions according to enterprise procedures
- carry out inert gas handling operations according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of must draining operations
- link to related processes
- stages and changes which occur during draining
- effect of process stages on end product
- quality characteristics and uses of product and materials
- product and materials preparation requirements and effect of variation on the process
- main methods used in must draining
- techniques that may be used to manipulate must draining operations and wine characteristics, including:
 - pressure
 - temperature
 - carbon dioxide
 - skin contact
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls, specifically confined space entry
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures

- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- sampling procedures where relevant
- preparing and making additions where relevant
- inert gas handling procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check must before commencing draining operations. This may include maintenance of gas cover, and checking temperature and alcoholic strength • prepare and confirm status of equipment before commencing draining, including: <ul style="list-style-type: none"> • screen fit and condition • press and crushing operations • cleaning and/or sanitisation requirements have been met • position or alignment of valves • integrity of door seal • monitor process control points and equipment during draining process • monitor juice supply, flow and characteristics for conformance to specifications • take corrective action in response to out-of-specification results or non-compliance • collect treat or dispose of waste in accordance with specifications • demonstrate knowledge of OHS hazards, controls and emergency procedures • undertake routine and emergency shutdowns • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company

EVIDENCE GUIDE	
	<p>practices, safe work practices, food safety, quality and environmental requirements</p> <ul style="list-style-type: none"> • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules

RANGE STATEMENT	
	<ul style="list-style-type: none"> • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • static drainers • incline drainers • counter-current roller strainer • swept-arm and static fermenters • rotary fermenters • membrane or batch press • rotary skin separators • jetting equipment • blowers • augers • hoppers • conveyor belts • must pumps • lines and fittings • drag screen
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of crushed grape varieties (must)
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • compressed air • inert gas
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data • sampling

RANGE STATEMENT	
	<ul style="list-style-type: none"> • checking tank levels • sight glass
Process set up, operation and monitoring functions	Process set up, operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2016A Operate the crushing process

Modification History

This unit supersedes and is equivalent to FDFCELPPB Operate the pressing process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the crushing process.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cellar staff who operate crushing equipment in winemaking enterprises. Product may include a range of grape varieties and whole fruit bunches, and materials. Equipment may include roller crusher, roller crusher-destemmer, destemmer-roller crusher, and beater-destemmer.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the crushing process for operation	1.1 Product and materials are confirmed and available to meet crushing requirements 1.2 Product and materials are prepared to meet crushing requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet crushing requirements
2. Operate and monitor the crushing process	2.1 The crushing process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Crushed product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification crushed product, process and equipment performance is identified, rectified and/or reported
3. Shut down the crushing process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify crushing requirements
- select, fit and use personal protective clothing and/or equipment

- confirm supply of necessary product, materials and services
- liaise with other work areas
- prepare product and materials as required. This may include:
 - positioning and aligning the tipper vessels
 - releasing free run juice before opening tailgate
 - preparing pre-mix additives and loading into hoppers
- confirm equipment status and condition. This may include:
 - checking for exposed or reactive metal parts
 - checking for lubricating or hydraulic fluid leaks
 - checking capacity of receival vessels
 - checking must pump operation
 - removing matter other than grape (MOG)
 - checking magnet operation
 - flushing with water and/or caustic
 - confirming operation of fruit unloading system
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - hopper screw speed
 - roller settings
 - destemmer speed
 - must pump speed
 - dosage of additions
 - dilution and oxidation
 - additions
 - product loss
 - relevant product characteristics (e.g. harvest method, berry size, slip skin, variety, quality, stem removal and berry maceration)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- conduct product and batch changeovers
- report and/or record corrective action as required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- follow confined space entry policies and procedures
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance

- carry out routine maintenance according to enterprise procedures
- prepare and make additions and finings according to enterprise procedures
- handle inert gas according to enterprise procedures
- take samples according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of crushing
- link to related processes
- stages and changes which occur during crushing
- effect of crushing stages on end product
- quality characteristics and uses of crushed product and materials
- product and materials preparation requirements and effect of variation on the process
- main methods used in crushing
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls, specifically confined space entry
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- routine maintenance procedures where relevant
- preparing and making additions and finings where relevant
- inert gas handling procedures where relevant
- sampling techniques where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check crushing equipment status and condition before commencing operation • monitor crushing process control points and equipment during crushing • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • sort, collect, treat, recycle or dispose of waste • record information appropriately.
<p>Method of assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.

EVIDENCE GUIDE	
Context of and specific resources for assessment	This unit should be assessed together with units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • roller crusher, roller crusher-destemmer, destemmer-roller crusher, and beater-destemmer
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of grape varieties • additions, including enzymes, sulphur dioxide (in

RANGE STATEMENT	
	various forms), acids, diammonium phosphate and yeast
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • compressed air • inert gas
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2017A Prepare and make additions and finings

Modification History

This unit supersedes and is equivalent to FDFCELAFB Prepare and make additions and finings.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare and make additions and finings
------------------------	---

Application of the Unit

Application of the unit	This unit applies to cellar operations staff who prepare and add finings and additions to wine according to prepared specifications, recipes or operating instructions. It includes the operation and checking of relevant equipment, monitoring the preparation and mixing process, taking any required corrective actions and keeping appropriate records.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare additions and finings	1.1 Product and materials are confirmed and available to meet production requirements 1.2 Product and materials are weighed or measured to meet requirements 1.3 Product and materials handling, mixing and blending equipment is checked to confirm readiness for use 1.4 Services are confirmed as available and ready for use 1.5 The process is set to meet production requirements
2. Make additions and finings	2.1 Product and materials are added in quantities and sequence specified by batch instructions 2.2 The process is operated to meet addition requirements 2.3 Control points are monitored to confirm performance is maintained within specification 2.4 Additions and finings meet specification 2.5 Equipment is monitored to confirm operating condition 2.6 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Complete additions and finings	3.1 The process is completed according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Unused materials are stored in designated area 3.4 Waste is collected, treated and disposed of, or recycled according to workplace procedures 3.5 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify batch requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- liaise with other work areas
- confirm equipment status and condition. This may include:
 - checking receival vessel (in transfer operations)
 - checking pump operation and integrity
 - checking for leaks
 - checking seals of hoses and fittings
 - introducing inert gas cover on tank
 - ensuring that all equipment is clean and/or sanitised
- set up and start up equipment to meet addition and fining requirements
- prepare product and materials in correct quantities and sequence
- monitor the preparation and mixing process. This may include monitoring:
 - mixing effectiveness
 - dosing rate
 - product loss
 - dilution
 - oxidation
 - speed of additions
 - relevant product characteristics (type)
- monitor flow of product and materials to and from the process
- transfer addition or fining to designated location
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirement
- maintain workplace records
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- use oral communication skills language to fulfil the job role as specified by the organisation,

including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and properties of addition and fining agents
- purpose and principles of preparing and making additions and finings
- link to related processes
- quality characteristics of product and materials used and effect on process outcome
- effect of mixing on the end product
- main methods of mixing, including:
 - pumping over
 - gas mixing
 - rummaging
 - stirring
 - venturi mixing
 - submersible mixers
 - in-place mixers
 - dosing
- cleaning and sanitation requirements of handling equipment
- cross-contamination risks and consequences
- batch specifications, procedures and operating parameters
- equipment and instrumentation components purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and methods of monitoring control points within the process
- common causes of variation and corrective action required
- consequences of over addition eg stripping, wasting materials
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- prepare products and materials, including weighing and measuring as required
- set up and operate equipment
- additions and finings are added according to specification
- ensure control points are monitored and appropriate corrective action is taken for out-of-specification product, process and equipment performance
- collect unused materials and waste, and store, treat or dispose of appropriately
- use personal protective equipment and follow other OHS procedures
- record information appropriately.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment as required
- work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements
- instructions, information, specifications and schedules as required
- equipment, services and corresponding information as required
- products and materials as required
- internal and external customers and suppliers as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules and instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> a range of cellar equipment, including pumps, hoses and fittings, dosing equipment, mixers and manual handling equipment

RANGE STATEMENT	
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of wine and/or fruit juice product and water • a range of additions and fining agents allowable under Australian regulations
Base or concentrate mixes	<p>Base or concentrate mixes may be:</p> <ul style="list-style-type: none"> • prepared for addition to bulk product and materials
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • compressed air • inert gas
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data
Type of process control	<p>Process control of weighing, measuring and mixing, set up, operation and monitoring functions may be done:</p> <ul style="list-style-type: none"> • manually or involve the use of a PLC or computer process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemicals, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2018A Carry out inert gas handling operations

Modification History

This unit supersedes and is equivalent to FDFCELGASB Carry out inert gas handling operations.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to use and handle inert gases safely.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the use of inert gases in winemaking operations. Individual or blends of inert gases may be used. Gases may be used in a solid or gaseous state. The unit covers the making of carbon dioxide bricks or snow. Winery operations requiring the use of inert gases may include air-freeing tanks, lines and ullage space, and sparging. Gases covered include carbon dioxide, nitrogen and argon (gas).
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select gases appropriate to the task	1.1 Purpose of gas usage is identified 1.2 Appropriate gas or gases are selected to meet requirements
2. Prepare and use gases in winery operations	2.1 Characteristics of gas to be handled are identified to determine risk factors 2.2 Appropriate equipment is selected and prepared or set up to meet requirements 2.3 Gas handling equipment is operated according to workplace procedures 2.4 Gas is handled according to specific risk factors and workplace procedures 2.5 Carbon dioxide bricks or snow are manufactured according to workplace procedures, if required 2.6 Gas type and quantity delivered meets specification
3. Complete gas handling operations	3.1 Equipment is shut down according to workplace procedures 3.2 Equipment is prepared for cleaning 3.3 Waste generated by the process is collected, treated and disposed of or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify gas handling requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary services, equipment and materials
- liaise with other work areas
- identify the purpose of gas usage in a variety of winery operations
- select appropriate gases to meet requirements, including:
 - single or blend of gases
 - gaseous or solid form
 - dosage
 - interpreting cylinder and/or service line information
- identify risk factors associated with gas to be handled
- select equipment appropriate to the task and gas to be handled
- set up and prepare equipment ready for operations. This may include:
 - checking gas levels in cylinder
 - setting timers or filling time
 - positioning receival slide
 - checking integrity of sparging (sinter) stone
 - ensuring hygiene and sanitation standards are met
 - checking machine sequence
 - checking gas pressures
- operate equipment according to workplace procedures or manufacturers' instructions
- manufacture carbon dioxide bricks or snow, if required
- deliver gas according to specifications
- monitor gas handling process. This may include monitoring:
 - gas pressure
 - gas flow
 - integrity of seals
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements

- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of using inert gases in winery operations
- properties and functions of gases
- hazards associated with different forms or types of gas
- gas handling policy and procedures
- factors affecting choice of gas or gas blends, including:
 - wine type and style
 - winemaker preference
- equipment set up, preparation and operation procedures and requirements, including settings and key variables
- purpose of personal protective clothing and equipment
- regulatory requirements as they affect immediate gas handling responsibilities
- requirements to liaise and/or advise related work areas
- routine maintenance requirements
- cleaning and sanitising requirements
- procedures and responsibility for reporting problems
- shutdown and routine shutdown sequence
- waste handling requirements and procedures
- Occupational Health and Safety (OHS) requirements
- recording requirements and procedures
- manufacturing process for dry ice bricks or snow

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • select appropriate gas, gas dosage and gas state for task • set up and prepare gas handling equipment according to manufacturer instructions, MSDS and operational requirements • manufacture carbon dioxide bricks or snow • monitor gas handling equipment during use, including pressure, flow and integrity of equipment • collect, treat and/or dispose of waste according to procedures • keep appropriate records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures. including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Inert gas	<p>Inert gas may include:</p> <ul style="list-style-type: none"> • carbon dioxide (solid or gaseous state) • nitrogen (gas) • argon (gas)
Equipment	Equipment may vary with the activity, and may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spargers • diffusers • carbon dioxide brick or snow makers • gas cylinders • pressure gauges • flow gauges
Winery operations requiring the use of inert gases	<p>Winery operations requiring the use of inert gases may include:</p> <ul style="list-style-type: none"> • air-freeing tanks • lines and ullage space • sparging
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • inert gases
Risk factors	<p>Risk factors may include:</p> <ul style="list-style-type: none"> • asphyxiation • burning
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Confirming equipment status involves	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration of measuring instrumentation

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2019A Carry out transfer operations

Modification History

This unit supersedes and is equivalent to FDFCELTRFB Carry out transfer operations.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and carry out transfer operations.
------------------------	---

Application of the Unit

This unit applies to cellar staff in wine making and distilled products enterprises who transfer various types of input and finished products between tankers and storage facilities, between storage facilities and from storage facilities to and from processing equipment. The unit covers operating and monitoring of pumps, hoses, valves, fixed lines and fittings. Product and materials transferred may include a range of wine and/or juice product and water. Equipment control and monitoring may be through manual, or process controls.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the transfer process for operation	1.1 Product and materials are confirmed and available to meet transfer requirements 1.2 Product and materials are prepared to meet transfer requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet transfer requirements
2. Operate and monitor the transfer process	2.1 The transfer process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Product is transferred according to specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the transfer process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify transfer requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- liaise with other work areas
- prepare product and materials as required
- confirm equipment status and condition. This may include:
 - confirming availability of destination receival vessels
 - confirming quantity of product in storage vessels
 - cleaning lines and equipment that the product will flow through
 - cleaning and gassing receival tanks
 - checking integrity of pipes, connections and transfer set up
 - selecting appropriate size of pipes or hoses
 - positioning valves
 - checking operation and setting speed of pumps
 - flushing line prior to transfer
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - flow rate
 - finish times
 - ullages
 - balances
 - product loss
 - dilution
 - oxidation
 - relevant product characteristics (e.g. type and faults)
- monitor supply and flow of product and materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation

- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation.
- identify, rectify and/or report environmental non-compliance
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of transfer
- link to related processes
- stages and changes that occur during transfer
- effect of process stages on end product
- quality characteristics and uses of transferred product
- product and materials preparation requirements and effect of variation on the process
- main methods used in transfer
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- sampling procedures where relevant
- testing procedures where relevant

- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • confirm status and supply of product to be transferred • confirm status and condition of transfer equipment before operation • monitor product and transfer equipment control points during transfer operation, including following procedures to minimise contamination, product loss, dilution and oxidation • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • sort, collect, treat, recycle or dispose of waste • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	<p>required</p> <ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules and instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> various types of pumps (positive displacement and hydrodynamic) hoses

RANGE STATEMENT	
	<ul style="list-style-type: none"> valves (ball, gate, butterfly and non-return) fixed lines fittings
Transfer types	<p>Transfer types may include:</p> <ul style="list-style-type: none"> racking, topping, blending, mixing, lees, and general from tanks to storage tankers
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> a range of wine and/or juice product and water
Services	<p>Services may include:</p> <ul style="list-style-type: none"> power water inert gas compressed air
Confirming equipment status	<p>Confirming equipment status involve:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational checking the operation and calibration of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> the use of production data
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> food safety (critical) quality and regulatory control points inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL2020A Prepare and wax tanks

Modification History

This unit supersedes and is equivalent to FDFCELWAXB Prepare and wax tanks.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare and wax tanks.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the waxing of tanks used in winemaking. The unit covers selecting and using equipment appropriate to the tank to be waxed and selection of the appropriate wax. This unit covers entering and removing top layer of wax on tank surfaces and removal of tartrates and waste from tanks. Training in confined space entry will be required for this unit. A Hot Work permit may be required. Special tank entry and breathing equipment may also be required. Application of wax may include spraying and melting of wax onto tank surface.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare materials and tank for waxing	1.1 Tank is prepared and confirmed as ready to wax 1.2 Equipment is checked to confirm readiness for use 1.3 Services are confirmed and available, as required 1.4 Wax is prepared according to instructions
2. Wax tanks	2.1 Top layer of wax is removed according to workplace procedures 2.2 Wax is applied according to workplace procedures 2.3 Equipment is operated according to workplace procedures 2.4 Waxing process is monitored and out-of-specification process and equipment performance is identified, rectified and/or reported 2.5 Occupational health and safety (OHS) procedures are adhered to at all times 2.6 Waxed tank meets specification
3. Complete tank waxing activities	3.1 Waxing equipment is shut down according to workplace procedures 3.2 Equipment is cleaned according to workplace procedures 3.3 Waste generated by both the waxing process and cleaning process is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Tank is returned to operating order 3.5 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify waxing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary equipment, materials, services and personnel
- liaise with other work areas
- apply confined space entry policy and procedures
- prepare tank for waxing. This may include:
 - dismantling
 - positioning valves and components
 - removing tartrates
 - drying tank surface
 - removing waste from tank
 - cleaning tank
 - pre-entry checks on tank and atmosphere
- prepare wax for use. This may include:
 - selecting appropriate wax
 - melting wax
 - blending wax to meet specification
 - following appropriate handling procedures
- confirm equipment status and condition
- remove top layer of wax on tank surfaces. This may include:
 - manual scraping
 - using a gas torch
 - utilising cold scrape methods
- apply wax to tank surfaces. This may include:
 - spraying hot melt wax onto surface
 - melting wax into tank surface using a blowtorch
- operate equipment according to workplace procedures and manufacturer instructions
- monitor waxing process. This may include monitoring:
 - wax temperature
 - surface coverage (area and depth)
 - burn on effectiveness
 - integrity of seal of tank surface

- atmosphere in tank
- equipment operation
- apply OHS principles, policies and procedures, including those associated with:
 - confined space entry
 - working on ladders or scaffolding
 - working with hazardous substances
- return tank to operating order. This may include:
 - positioning valves or door
 - carrying out checks and inspections to confirm effectiveness of waxing
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- clean waxing equipment
- identify, rectify and/or report environmental non-compliance
- apply OHS principles, policies and procedures associated with a Hot Work permit according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of waxing tanks
- safe handling and storage of waxes used
- functions of waxes and related equipment and materials
- waxing requirements for specific tanks. This includes tanks with damage, and different wax mix preparation requirements
- purpose of personal protective clothing and equipment
- methods used to render tanks safe to wax, including lock-out, tag-out and isolation procedures
- equipment settings required for operating waxing equipment
- inspection points for waxing
- regulatory requirements as they affect immediate responsibilities for waxing
- types of waste generated by both the waxing and the cleaning process and related collection, treatment and disposal requirements

- requirements to liaise or advise related work areas
- reporting and recording systems
- tank waxing procedures and specifications
- OHS hazards and controls, including:
 - confined space entry
 - using hazardous substances
 - working on ladders and scaffolding
- procedures for returning tanks to operation
- OHS hazards and controls associated with a Hot Work permit where relevant

Evidence Guide

Not applicable.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Preparation and waxing materials	<p>Preparation and waxing materials may include:</p> <ul style="list-style-type: none"> • cleaning and sanitising chemicals, paraffin, micro wax and beeswax
Equipment	<p>Equipment used to prepare and wax tanks depends on specific requirements and would normally include:</p> <ul style="list-style-type: none"> • hoses • spraying unit • burning on equipment • scaffolding • ventilation unit • scrapers • air blowers • air driers
Tank entry equipment	<p>Tank entry equipment may include:</p> <ul style="list-style-type: none"> • harness • rope • breathing apparatus • medical air supply

RANGE STATEMENT	
	<ul style="list-style-type: none"> • buddy bottle • ladder • fire extinguisher • oxygen monitor
Services	<p>Services depend on specific requirements. Examples include:</p> <ul style="list-style-type: none"> • high-pressure water or steam, and gas
Preparing equipment for cleaning	<p>Preparing equipment for cleaning includes:</p> <ul style="list-style-type: none"> • confirming that all waste materials have been cleared and equipment is correctly locked out, tagged out or isolated as required by operating procedures
Work	<p>Work may be:</p> <ul style="list-style-type: none"> • carried out in confined spaces
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances
Workplace information	<p>Workplace information may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL3001A Perform second distillation (pot still brandy) operations

Modification History

This unit supersedes and is equivalent to FDFCELSDA Perform second distillation (pot still brandy) operations.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to start up, operate and shut down a pot still for second distillation operations.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to cellar operations staff required to operate a pot still for the second distillation of low wine. The distillation product may be fortifying spirit, commercial and premium brandy.</p> <p>The unit covers managing the distillation equipment and process, taking samples and tests, routine and emergency shutdowns, and keeping of records. A working knowledge of Customs and Excise regulations is also required. The unit can apply to both manual and computer-controlled pot still distillation processes.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2013A	Apply sampling procedures
	MSL973001A	Perform basic tests

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the second distillation process for operation	1.1 Product and materials are confirmed and available to meet production requirements 1.2 Product and materials are prepared to meet production requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet production requirements
2. Operate and monitor the second distillation process	2.1 The distillation process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Distillate meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification distillate, process and equipment performance is identified, rectified and/or reported
3. Shut down the second distillation process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify distillation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services. This may include checking temperature and alcoholic strength
- liaise with other work areas

- prepare product and materials as required. This may include:
 - heating the incoming product
 - surveying vessel to be distilled
 - taking dips of low wine product
 - testing low wine product
- confirm equipment status and condition. This may include checking:
 - water flow to condensers
 - receiver vessels for heads, heart and tails
 - pot is empty
 - discharge valve is shut
 - pump operation
 - integrity of lines and fittings
- set up and start up the process. This will include any tests or procedures required to meet Customs and Excise regulations
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - valves
 - cooling water flow rates to condensers
 - volume of charge
 - temperature of distillate
 - alcoholic strength of distillate
 - heat source
 - receivers for distillation products
 - pressure of still
 - condensate rate or flow (speed)
 - condenser and/or brandy ball temperature
 - safety and vacuum valves
- monitor supply and flow of product, materials and services to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers
- take samples and conduct tests
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include:
 - shutting off steam
 - shutting off water to condenser and brandy ball
 - checking for presence of vapour in pot
 - discharging waste to effluent system
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, removing waste either manually or by rinsing in preparation for cleaning and sanitation.
- record workplace information. This will include meeting the requirements of Customs and

Excise regulations

- maintain work area to meet housekeeping standards
- ensure that all Customs and Excise regulations are adhered to
- sort, collect, treat, recycle or dispose of waste according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- perform transfer operations according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of second distillation operations, including definition of the following terms:
 - second distillation
 - heads or feints
 - heart
 - tails or oils (higher alcohols)
 - brandy spirit (Customs definition)
- alcoholic content of distillation product and final product and legislative requirements
- range of products produced by distillation process, including fortifying spirit, commercial and premium brandy
- link to related processes. This will include the preparation of the product to be distilled and any further processing requirements of the distillate
- stages and changes which occur during distillation. This will include critical temperatures, alcoholic strength and specific components affected
- effect of process stages on distillate and by-products
- quality characteristics and uses of a range of distillation products including fortifying spirit, commercial and premium brandy
- product and materials preparation requirements and effect of variation on the process
- process specifications, procedures and operating parameters. This may include:
 - individual still capacities
 - boiler pressure
 - alcoholic strength
 - temperatures
 - winemakers specifications
- equipment and instrumentation components, purpose and operation

- basic operating principles of process control systems where relevant
- sampling and testing procedures
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls. This will include:
 - the dangerous properties of ethyl alcohol
 - emergency flooding procedures
 - emergency evacuation procedures
 - handling procedures of spirits
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- recording requirements and procedures
- operational knowledge of Customs and Excise regulations
- waste handling requirements and procedures where relevant
- routine maintenance procedures where relevant
- transfer procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare low wine for distillation, including checks for temperature and alcoholic strength and undertaking any required heating of low wine • prepare and confirm status of equipment before commencing second distillation • monitor distillation process control points and equipment, including taking of samples and conducting of tests • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • demonstrate knowledge of OHS hazards, controls and emergency procedures • adhere to Customs and Excise regulations • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as

EVIDENCE GUIDE	
	<p>required</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Distillation equipment	<p>Distillation equipment may include:</p> <ul style="list-style-type: none"> • pot still • pumps

RANGE STATEMENT	
	<ul style="list-style-type: none"> • lines and fittings • valves • heat exchangers • condensers • brandy ball • receival vessels • temperature controls • test equipment (e.g. hydrometers and thermometers)
Product and materials	Product and materials may include: <ul style="list-style-type: none"> • low wines
Services	Services may include: <ul style="list-style-type: none"> • power • water (hot and cold) • steam • fuel
Confirming equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration of measuring instrumentation
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> • the use of production data, such as speed control sheets • sampling • analytical tests
Process set up, operation and monitoring functions	Process set up, operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based

RANGE STATEMENT**Work hazards**

Work may involve exposure to:

- chemical, dangerous or hazardous substances

Unit Sector(s)**Unit sector**

Wine operations

Custom Content Section

Not applicable.

FDFCEL3002A Operate the continuous clarification by separation (flotation) process

Modification History

This unit supersedes and is equivalent to FDFCELCCSB Operate the continuous clarification by separation (flotation) process.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the continuous clarification by separation (flotation) process.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to a worker required to operate the continuous clarification process as part of their work role within the wine production section of an enterprise.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2018A	Carry out inert gas handling operations
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the continuous clarification by separation (flotation) process for operation	1.1 Product and materials are confirmed and available to meet clarification requirements 1.2 Product and materials are prepared to meet clarification requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet clarification requirements
2. Operate and monitor the continuous clarification by separation (flotation) process	2.1 The continuous clarification by separation (flotation) process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Clarified product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the continuous clarification by separation (flotation) process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify clarification requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product and services
- liaise with other work areas
- prepare product as required. This may include:
 - checking that it is pectin negative
 - adding sulphur
 - cooling product
 - adding pectin enzymes
- confirm equipment status and condition. This may include:
 - loading fining agents
 - positioning valves correctly
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - flow rates
 - flotation effectiveness
 - test flotation results
 - dosage rates
 - dosage ratios
 - gas rates
 - pressure
 - weir level
 - product loss
 - dilution
 - oxidation
 - relevant product characteristics (e.g. variety, turbidity and solids content)
- monitor supply and flow of product to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- sort, collect, treat, recycle or dispose of waste

- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance
- carry out routine maintenance according to enterprise procedures
- conduct routine tests according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of continuous clarification by separation (flotation)
- link to related processes
- stages and changes which occur during continuous clarification by separation (flotation)
- effect of process stages on end product
- quality characteristics and uses of continuous clarification by separation (flotation) product
- product preparation requirements and effect of variation on the process
- main methods used in continuous clarification by separation (flotation)
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- testing procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare and confirm status of equipment before commencing clarification • monitor clarification process control points and equipment • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.

EVIDENCE GUIDE	
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • purpose designed flotation equipment that incorporates in-line dosing, pressure vessel, flotation tub and solids extraction for continuous operation
Product	Product may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> a range of juice products
Services	<p>Services may include:</p> <ul style="list-style-type: none"> power gas compressed and instrumentation air steam and water
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational checking the operation and calibration status of measuring instrumentation
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> fining agents, such as bentonite, gelatine, SO₂ and pectin enzymes
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> the use of production data
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> food safety (critical) quality and regulatory control points inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

Custom Content Section

Not applicable.

FDFCEL3003A Operate the concentration process

Modification History

This unit supersedes and is equivalent to FDFCELCONB Operate the concentration process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate a centrifugal juice concentrator.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cellar operations staff required to operate a continuous clarification process. The product may include a range of juice products. The unit covers managing the equipment and process, monitoring, routine and emergency shutdowns, and keeping of records.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the concentration process for operation	1.1 Product is confirmed and available to meet concentration requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The process is set to meet concentration requirements
2. Operate and monitor the concentration process	2.1 The concentration process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Concentrated product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the concentration process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify concentration requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product and services
- liaise with other work areas
- confirm equipment status and condition. This may include:
 - confirming availability of receival vessels
 - setting machine and process variables (e.g. flow rate, vacuum and temperature)
 - positioning valves
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - flow rates
 - operating vacuum
 - operating temperatures
 - cone rpm
 - dilution and product loss
 - relevant product characteristics (brix level)
- monitor supply and flow of product to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information
- maintain work area to meet housekeeping standards
- identify, rectify and/or report environmental non-compliance
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from

supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of concentration operation
- link to related processes
- stages and changes which occur during concentration operation
- effect of process stages on end product
- quality characteristics and uses of concentrated product
- product preparation requirements and effect of variation on the process
- main methods used in concentration process
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- sampling procedures where relevant
- testing procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

EVIDENCE GUIDE	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare and confirm status of equipment before commencing clarification • monitor concentration process control points and equipment • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • various capacity and configurations of centrifugal juice concentrators and associated in-line equipment, such as heat exchangers and vacuum pumps
Product	<p>Product may include:</p> <ul style="list-style-type: none"> • a range of juice products
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power

RANGE STATEMENT	
	<ul style="list-style-type: none"> • steam • water • brine
Confirming equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and the equipment is operational • checking the operation and calibration status of measuring equipment
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> • the use of production data
Process set up, operation and monitoring functions	Process set up, operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFCEL3004A Perform de-aromatising, de-alcoholising or de-sulphuring operations

Modification History

This unit supersedes and is equivalent to FDFCELDEOB Perform de-aromatising, de-alcoholising or de-sulphuring operations.
 April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the de-aromatising, de-alcoholising or de-sulphuring operation.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to cellar operations staff required to operate a de-aromatising, de-alcoholising or de-sulphuring process. The product and materials may include a range of wine and/or juice products, sodium hydroxide and indicator solution (phenolphthalein).</p> <p>The unit covers managing the equipment and process, monitoring, routine and emergency shutdowns, and keeping of records.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFCEL2018A	Carry out inert gas handling operations
	FDFCEL2019A	Carry out transfer operations

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the de-aromatising, de-alcoholising or de-sulphuring process for operation	1.1 Materials are confirmed and available to meet production requirements 1.2 Materials are prepared to meet production requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet production requirements
2. Operate and monitor the de-aromatising, de-alcoholising or de-sulphuring process	2.1 The process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 De-aromatised, de-alcoholised or de-sulphured product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the de-aromatising, de-alcoholising or de-sulphuring process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- liaise with other work areas
- dose materials as required
- confirm equipment status and condition. This may include:
 - confirming availability of receival vessels
 - positioning valves
 - setting temperature gauges
 - setting machine variables (e.g. pressure, temperature, vacuum and flow rate)
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - flow rates
 - operating pressure or vacuum
 - operating temperatures
 - cone rpm
 - dosing rates
 - strip rate
 - neutralising solutions
 - relevant product characteristics (e.g. type, alcohol content and sulphur dioxide level)
- perform transfers
- handle spirits
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation.
- record workplace information

- maintain work area to meet housekeeping standards
- identify, rectify and/or report environmental non-compliance
- take samples according to enterprise procedures
- conduct tests according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of de-aromatising, de-alcoholising or de-sulphuring operation
- link to related processes
- stages and changes which occur during de-aromatising, de-alcoholising or de-sulphuring operation
- effect of process stages on end product
- quality characteristics and uses of de-aromatised, de-alcoholised or de-sulphured product
- transfer procedures
- spirit handling requirements and procedures
- materials preparation requirements and effect of variation on the process
- main methods used in de-aromatising, de-alcoholising or de-sulphuring
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- sampling procedures where relevant
- testing procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare and confirm status of equipment before commencing clarification • monitor de-aromatising, de-alcoholising or de-sulphuring process control points and equipment • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.

EVIDENCE GUIDE	
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules or instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>De-aromatising, de-alcoholising or de-sulphuring equipment may include:</p> <ul style="list-style-type: none"> • various capacity and configurations of spinning cone column and associated in-line equipment, such as heat exchangers, spirit pump, gas compressor, vacuum pump and sulphur column

RANGE STATEMENT	
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of wine and/or juice products, sodium hydroxide and indicator solution (phenolphthalein)
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • inert gas • compressed air • steam • water • brine
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and the equipment is operational • checking the operation and calibration status of measuring equipment
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be:</p> <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Cellar operations
-------------	-------------------

Custom Content Section

Not applicable.

FDFCEL3005A Perform rectification (continuous still) operations

Modification History

This unit supersedes and is equivalent to FDFCELRECA Perform rectification (continuous still) operations.

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to prepare for, conduct and monitor rectification processes in wine production.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cellar operations staff required to operate a rectification process. Product and materials may include a range of distillation products and by-products, including low wine, heads, fusel oil and oil of wine. The unit covers managing the equipment and process, monitoring, routine and emergency shutdowns, and keeping of records.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
	<p>FDFCEL2004A Perform single column lees stripping (continuous still brandy) operations*</p> <p><i>FDFOP2004A Clean and sanitise equipment</i></p> <p><i>FDFOP2013A Apply sampling procedures</i></p> <p><i>MSL973001A Perform basic tests</i></p>

	FDFCEL2012A	Handle spirits* <i>FDFCEL2019A Carry out transfer operations</i>
--	-------------	---

Employability Skills Information

Employability skills	This unit contains employability skills.
----------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the rectification process for operation	1.1. Product and materials are confirmed and available to meet production requirements 1.2 Product and materials are prepared to meet production requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet production requirements
2. Operate and monitor the rectification process	2.1 The rectification process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Product and process meet specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, remedied and/or reported
3. Shut down the rectification process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and/or prepared for cleaning 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify distillation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services. This may include checking temperature and alcoholic strength
- liaise with other work areas
- prepare product and materials as required. This may include heating the incoming product
- confirm equipment status and condition. This may include checking:
 - computer operation
 - air pressure from compressor
 - fuel intake
 - water flow to condensers
 - receiver vessels for product and by-products
- set up and start up the process. This will include any tests or procedures required to meet Customs and Excise regulations
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - wine feed
 - alcohol content of the feed
 - steam input
 - cooling water flow rates to condensers
 - volume of charge
 - temperature of distillate
 - alcoholic strength of distillate
 - heat source
 - reflux temperatures
 - temperature of incoming wine
 - temperatures throughout still and/or column
 - temperatures and strengths at take-off points
 - receivers for heads, hearts and tails
 - evaporation rates
 - charge characteristics
 - pressure of still and/or column

- condensate rate or flow
- monitor supply and flow of product, materials and services to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product and batch changeovers
- take samples and conduct tests
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- record workplace information. This will include meeting the requirements of Customs and Excise regulations
- maintain work area to meet housekeeping standards
- ensure that all Customs and Excise regulations are adhered to
- sort, collect, treat, recycle or dispose of waste according to enterprise procedures
- manually clean and sanitise equipment according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- carry out transfer operations according to enterprise procedures
- perform heat exchange operations according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of rectification, including definition of the following terms:
 - distillation
 - continuous columns
 - fractionation
 - bubble tower
 - bubble caps or plates
 - sieve trays or plates
 - packed column
- types and operation of different columns used for rectification. This should include:

- structure and operation
- purpose of each column
- effect of each column on characteristics of end product
- factors affecting distillation column operation. This may include:
 - feed conditions
 - reflux conditions
 - vapour flow conditions
 - foaming
 - entrainment
 - weeping or dumping
 - flooding
 - column diameter
 - state of trays and packings
 - weather conditions
- process requirements for cuts taken from each column. This may include:
 - heads (or feints)
 - tails or fusel oils
 - oil of wine
 - methanol
 - highly rectified spirit (SVR)
- link to related processes. This will include the fermentation or preparation of the product to be distilled and any further processing requirements of the distillate
- stages and changes which occur during distillation. This will include critical temperatures and specific components affected
- effect of process stages on distillate and by-products
- quality characteristics and uses of distillate and by-products
- product and materials preparation requirements and effect of variation on the process
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- sampling and testing procedures
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls. This will include:
 - the dangerous properties of ethyl alcohol
 - emergency flooding procedures
 - emergency evacuation procedures
 - handling procedures of spirits
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems

- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- recording requirements and procedures
- operation of Customs and Excise regulations
- waste handling requirements and procedures where relevant
- cleaning and sanitation procedures where relevant
- routine maintenance procedures where relevant
- transfer procedures where relevant
- heat exchange procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • prepare and confirm status of equipment before commencing rectification • monitor rectification process control points and equipment • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • demonstrate knowledge of OHS hazards, controls and emergency procedures • record information appropriately.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company

EVIDENCE GUIDE	
	<p>practices, safe work practices, food safety, quality and environmental requirements</p> <ul style="list-style-type: none"> • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Rectification equipment may include:</p> <ul style="list-style-type: none"> • analyser column • purifier column • rectifier column • methanol column • pasteuriser • pumps • lines and fittings • valves • flow meters • heat exchangers • pressure vessels, • compressors • condensers • test equipment (e.g. hydrometers and, thermometers) • monitoring equipment
Product and materials	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • a range of distillation products and by-products, including low wine, heads, fusel oil and oil of wine
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water (hot and cold) • steam • fuel
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data, such as performance control charts (manual or computerised)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • sampling • sensory evaluation • analytical tests
Process set up, operation and monitoring functions	Process set up, operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Cellar operations
--------------------	-------------------

Custom Content Section

Not applicable.

FDFCH3001A Coordinate cheese making operations

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency covers the skills and knowledge required to carry out cheese making through the operation of an integrated industrial process under the direction of the cheese manufacturing manager.

Application of the Unit

This unit applies to advanced operators in industrial cheese enterprises. It typically applies to staff with responsibility for implementing operational procedures for a multi-stage cheese manufacturing process, carrying out basic tests, keeping records and complying with personal safety, food safety and quality standards. The supervision of operator level staff may be involved. This unit includes testing and recording of data at critical control points and making a limited range of adjustments to the production process, based on variances established by testing. The unit doesn't include milk preparation processes, and covers cheese production only to bulk packaging, excluding the subsequent curing, portioning and retail packaging processes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor milk supply and quality	1.1 Milk supply is confirmed for the batch 1.2 Sample data on milk is checked for composition, homogeneity, somatic cell count and disk assay, as required 1.3 Milk is maintained at required temperature for inoculation with the required culture
2. Prepare cheese making equipment and add ingredients	2.1 Safe work practices are applied and reviewed based on risk assessment 2.2 Ingredients are confirmed and available to meet product requirements 2.3 Ingredients are added at pre-determined levels to meet recipe requirements 2.4 Starter and optional adjuncts are handled safely and according to procedures to maintain purity and viability 2.5 Equipment is checked to confirm readiness for use 2.6 Cheese making equipment is set and operated to meet requirements 2.7 Ingredients are loaded into the plant at the required stage 2.8 Final mix is checked against specifications
3. Carry out process control and make adjustments according to operating procedures	3.1 Correct start-up and shutdown procedures are followed 3.2 Equipment faults are identified and reported 3.3 Cheese making processes are monitored and required samples are taken according to operating procedures 3.4 Routine testing is carried out and records maintained 3.5 Timings are monitored as cheese moves through processing stages 3.6 Salt and moisture levels and pH levels are monitored and adjusted by varying the addition rate of ingredients, adjusting moisture control parameters, or changing time spent in processing stages as per operating procedures 3.7 Cheese is checked for food safety and quality requirements 3.8 Unacceptable cheese is identified, rectified and/or reported 3.9 Cheese is packaged for curing and distribution with correct batch number attached 3.10 Equipment is cleaned to meet production and hygiene requirements after each batch 3.11 Safety procedures are implemented and reviewed as part of the enterprise occupational health and safety (OHS) plan
4. Record and review cheese making	4.1 Cheese yields are monitored and compared to standards 4.2 Environmental practices and safety standards are reviewed in

ELEMENT	PERFORMANCE CRITERIA
process	accordance with legislation and workplace requirements 4.3 Workplace records are maintained according to requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- confirm condition, type, quality and quantity of ingredients
- measure ingredients, as required
- confirm equipment status and condition
- set cheese making equipment to meet production requirements
- transfer ingredients and check that all meet specifications
- take corrective action according to operating procedures
- use equipment correctly and identify basic equipment faults
- maintain work area to meet housekeeping standards
- carry out sampling for chemical and microbiological testing of cheese
- conduct tests for ph, moisture, fat and salt levels in cheese
- implement safe work practices
- comply with environmental requirements for a cheese processing operation.

Required knowledge includes:

Knowledge of:

- the main components of milk and cheese (both curds and whey)
- purpose and basic principles of cheese making
- equipment start-up, shutdown and emergency procedures
- quality characteristics to be achieved by a cheese making process
- milk characteristics and components important in cheese making
- milk preparation for cheese making (fat and protein standardisation, and pasteurisation)
- types of starters used and their role in the fermentation process
- effect of milk characteristics on cheese processing performance
- use of coagulating enzymes to initiate the syneresis process
- use of adjunct cultures
- moisture control in cheese making
- effects of pH and temperature on cheese processing performance and product quality
- types and impact of inhibitory substances in milk
- microbial contaminants of cheese (lipolytic bacteria, yeasts, moulds, bacillus, listeria, E. coli, salmonella, coliforms and staphylococci) and their impact on cheese quality
- impact of bacteriophage on the fermentation process
- sampling and testing procedures for contaminant microbes
- operation and routine maintenance requirements of cheese making and packing plant and equipment
- operational procedures for operating the cheese making process, including adding ingredients, testing, measuring and recording, and making limited adjustments to ingredient recipes or the operation of equipment according to procedures
- common causes of variation and corrective action required for each stage of the cheese making operation
- contamination risk of inoculants and contaminants
- food safety risks associated with the process and related control measures
- organoleptic properties of cheese and their relationship to processes and ingredients in cheese making
- sampling procedures
- packaging procedures
- product/batch changeover procedures
- staff supervision
- line responsibility for reporting production and performance information
- food safety and quality assurance standards and procedures
- hygiene, cleaning and sanitation procedures in line with best manufacturing practice
- Food Standards Code
- routine maintenance procedures
- OHS hazards and controls
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to carry out cheese making through the operation of an integrated industrial process under the direction of the cheese manufacturing manager.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to coordinate an integrated industrial cheese making operation, including:</p> <ul style="list-style-type: none"> • mixing and adding ingredients • sampling and making adjustments to ingredients or timings as specified in procedures • supervising work flow and the packaging of cheese.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food cheese production. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • sampling and testing equipment and procedures • recording systems to meet food safety and quality assurance requirements • recipe instructions • specifications, control points and processing settings • milk preparation, cheese making and packaging equipment • PPE and material safety data sheets (MSDS), as required • cleaning procedures, materials and equipment, as required.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of candidate operating cheese

	<p>manufacturing equipment</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • third-party supporting statement.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time in an industrial cheese making environment. Part of the evidence for assessment must be based on work performance in an industrial cheese plant.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to: <ul style="list-style-type: none"> company procedures regulatory and licensing requirements legislative requirements industrial awards and agreements.
Safe work practices	Safe work practices are determined by risk assessment on site and may cover: <ul style="list-style-type: none"> use of personal protective equipment (PPE) manual handling procedures exposure to hazardous substances hazards in the processing environment, such as noise, moving equipment, scalds, and trips and falls.
Cheese types	Cheese types may be: <ul style="list-style-type: none"> of any type but must be produced using an integrated industrial process.
Cheese inoculants	Cheese inoculants include: <ul style="list-style-type: none"> the lactic acid bacteria which are added to the milk as a culture in inoculation fungi.
Cheese additives	Cheese additives are added to the milk after inoculation and include: <ul style="list-style-type: none"> calcium chloride nitrates colour flavourings, fruit or nuts lipases.
Cheese adjuncts	Cheese adjuncts are microbial populations added to

	<p>cheese in addition to the normal inoculants to:</p> <ul style="list-style-type: none"> • provide consistency to flavour and texture • accelerate flavour development • produce specific attributes to meet market targets.
Milk standardisation requirements	<p>Milk standardisation requirements may:</p> <ul style="list-style-type: none"> • include standardisation of fat and protein • require the addition of skim milk or skim milk solids, or the separation of cream.
Cheese tests	<p>Cheese tests may include:</p> <ul style="list-style-type: none"> • testing for pH levels • moisture levels • fat levels • salt levels • physical testing of cheese throughout production.
Adjustments to process	<p>Adjustments to process may require:</p> <ul style="list-style-type: none"> • taking action to alter pH or moisture or adjust fat and protein levels in milk or add additional quantities of ingredients, such as salt
Multi-phase cleaning systems	<p>Multi-phase cleaning systems may include:</p> <ul style="list-style-type: none"> • cleaning multi-phase systems, such as chlorinated alkaline detergent with a chelator, followed by water and acid rinses.
Food safety related information	<p>Food safety related information may include:</p> <ul style="list-style-type: none"> • milk counts • cheese bacterial counts • manufacture and storage details.
Cleaning standards	<p>Cleaning standards include:</p> <ul style="list-style-type: none"> • AS 4709 - 2001 Guide to cleaning and sanitising of plant and equipment in the food industry • AS 1162 - 2000 Cleaning and sanitising dairy factory equipment • AS 2541 - 1998 Guide to the cleaning-in-place of dairy factory equipment.

Unit Sector(s)

Cheese.

FDFCH3002A Carry out processes for a range of artisan cheeses

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency covers the skills and knowledge required to carry out artisan cheese making processes under the direction and supervision of the operations manager.

Application of the Unit

This unit applies to workers in artisan cheese enterprises, which use small scale methods to produce cheeses. The unit typically applies to staff with responsibility for implementing operational procedures, keeping basic records and complying with personal, and food safety and quality standards. This unit includes handling ingredients and cheese throughout production, using cheese making equipment, implementing operational procedures, and reporting variances and issues in production.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply sanitation procedures	1.1 The storage area for starter cultures is kept clean to reduce the risk of infection 1.2 All surfaces are kept clean and sanitised, except for curing boards 1.3 Stringent personal hygiene procedures are applied 1.4 Raw milk area is maintained separate from pasteurised milk operations 1.5 Multi-phase cleaning systems are applied to ensure sanitised surfaces and equipment 1.6 Food safety related information is recorded, as required, including milk counts and cheese bacterial counts
2. Implement procedures to prepare milk for cheese making	2.1 Clarification procedures for raw milk are carried out, if required 2.2 Standardisation procedures for milk are implemented to be processed into cheese 2.3 Pasteurisation procedures are carried out for milk 2.4 Homogenisation procedures are carried out for milk, where required
3. Carry out procedures to inoculate milk and cut the curd	3.1 Inoculants and adjuncts are added to milk and it is allow to ripen to specification 3.2 Rennet is measured accurately and diluted before adding to milk 3.3 Temperature is maintained at specified level evenly throughout the vat 3.4 Curd samples are taken and tests carried out for acidity (either pH or titratable acidity) and temperature
4. Implement procedures to separate, cook and wash the curd	4.1 Curd cutting is carried out using the correct technique and equipment to minimise loss of protein and fat as fines 4.2 Whey fat levels are assessed to monitor curd cutting efficiency 4.3 The cooking schedule is followed and curd is stirred to ensure optimal syneresis 4.4 Draining and optional washing procedures are carried out to ensure curd is at required moisture, pH level and consistency
5. Carry out fermentation, salting and optional pressing treatments	5.1 Curd is transferred to moulds to form the shape of cheeses for brine salted cheeses and then held at a constant temperature for completion of fermentation 5.2 Acidification of curd is continued after draining, then dry salt is added to milled curd before pressing 5.3 Salting treatments are applied to ensure uniform salt levels in the finished product 5.4 Dry salted cheese is pressed in the required moulds

ELEMENT	PERFORMANCE CRITERIA
6. Implement cheese curing and packaging procedures	6.1 Curing requirements (duration, temperature and humidity, where applicable) for a range of cheeses are applied 6.2 The curing environment is monitored 6.3 Ripening agents are added to cheese, if required 6.4 Packaging and labelling procedures are carried out, either before or after curing, as required
7. Assess the organoleptic properties of cheese and relate to specifications	7.1 Desirable and undesirable flavours in cheese are identified 7.2 Different textures of cheeses are recognised 7.3 Cheese is assessed for evenness of colour and finish 7.4 Possible causal factors are identified and changes made to procedures to address cheese quality issues
8. Meet workplace requirements for food safety, quality and environmental management	8.1 Records of cheese manufacture are kept, including required measurements for timing of operations, temperature, milk and curd acidity, curd weight, hooped yield and curing data 8.2 Health and safety and environmental protection procedures are implemented for the cheese making working environment 8.3 Waste is disposed of and contribution made to the review of environmental impacts of the cheese making operation

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- carry out cleaning and sanitation procedures
- follow a process flow chart for cheese making showing inputs, processes and outputs
- prepare milk for cheese making
- carry out homogenisation and standardisation procedures, where required
- apply heat treatment to milk and monitor temperature
- add starter to initiate fermentation process and optional adjunct cultures for desirable attributes in different cheese types
- measure and mix rennet to promote coagulation
- carry out curd cutting
- carry out cooking and drainage operations
- apply procedures to promote syneresis
- separate whey from curd and press and salt curd
- monitor storage and ripening, if applicable, conditions for cheese
- carry out sampling for chemical and microbiological testing of cheese
- assess cheese for organoleptic qualities
- conduct tests for pH, moisture and salt levels in cheese
- carry out packaging of cheese
- implement safe work practices
- comply with environmental requirements for a processing operation.

Required knowledge includes:

Knowledge of:

- the main cheese types and the common processes for making different types of cheeses
- the main components of milk and cheese (both curds and whey)
- purpose and basic principles of cheese making
- quality characteristics to be achieved by each cheese making process
- milk characteristics and components important in cheese making
- milk preparation for cheese making (standardisation, pasteurisation and homogenisation)
- types of starters used and their role in the fermentation process
- effect of milk characteristics on cheese processing performance
- moisture control in cheese making
- processes of coagulation and syneresis and their role in cheese making
- effects of acidity (either pH or titratable acidity) and temperature on cheese processing performance and product quality
- types and impact of inhibitory substances in milk
- microbial contaminants of cheese (lipolytic bacteria, yeasts, moulds, bacillus, listeria, E.

- coli, salmonella, coliforms and staphylococci) and their impact on cheese quality
- the impact of bacteriophage in fermentation and ripening
 - sampling and testing procedures for microbes
 - role of yeasts, moulds and adjunct cultures in cheese making
 - temperature and humidity of curing
 - ripening agents for different cheese types
 - contamination/food safety risks associated with the process and related control measures
 - techniques used to monitor the cheese making process, including inspecting, measuring and testing, as required by the process
 - common causes of variation and corrective action required for each cheese making process
 - organoleptic properties and their relationship to processes and ingredients in cheese making
 - sampling procedures
 - food safety and quality assurance standards and procedures
 - hygiene, cleaning and sanitation procedures in line with best manufacturing practice
 - routine maintenance procedures
 - product/batch changeover procedures
 - occupational health and safety (OHS) hazards and controls
 - contamination risk of inoculants and contaminants
 - food safety principles and procedures
 - Food Standards Code
 - procedures and responsibility for reporting production and performance information
 - environmental issues and controls, including waste collection and handling procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to carry out artisan cheese making processes under the direction and supervision of the operations manager.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to carry out processes in artisan cheese making, including:</p> <ul style="list-style-type: none"> • following procedures for sanitation, food safety, quality assurance and environmental management in artisan cheese production • carrying out operations to: <ul style="list-style-type: none"> • prepare milk for cheese making • coagulate milk through inoculation and ripening • separate and wash curd • carry out cooking and curing processes • package and label artisan cheeses according to procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food cheese production. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures • sampling and testing equipment and procedures • methods and related software systems, as required, for collecting data and calculating yields, efficiencies and material variances appropriate to the type of cheese and the production environment.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of candidate conducting cheese making processes as per operational procedures, including the appropriate sampling and testing

	<ul style="list-style-type: none">• written and/or oral questioning to assess knowledge and understanding• third-party supporting statement.
Guidance information for assessment	Evidence should be gathered over a period of time, should cover all stages of cheese making, and should be assessed for a range of cheese types. Cheese can be produced in a real or simulated environment.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Legislation</p>	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity.
<p>Policies and procedures</p>	<p>Work is carried out according to:</p> <ul style="list-style-type: none"> • company procedures • regulatory and licensing requirements • legislative requirements • industrial awards and agreements.
<p>Safe work practices</p>	<p>Safe work practices are determined by risk assessment on site and may cover:</p> <ul style="list-style-type: none"> • use of personal protective equipment (PPE) • manual handling procedures • exposure to hazardous substances • hazards in the processing environment, such as noise, moving equipment, scalds, and trips and falls.
<p>Artisan production systems</p>	<p>Artisan production involves the making of cheese by traditional (non-industrial) methods. Emphasis is placed on observing and handling the cheese during processing. Artisan producers typically employ less than 30 people and do comparatively small production runs of specialty type cheeses.</p> <p>Industrial production relies on mechanised equipment to perform a number of processing stages in the one machine. Production runs and output are of higher volume than artisan production. Industrial production can also include specialty cheeses if mechanised equipment is available.</p>
<p>Cheese types</p>	<p>Cheese types include any type of fermented cheese product, including</p>

	<ul style="list-style-type: none"> acid-coagulated (e.g. Cottage and cream cheese) acid/heat-coagulated (e.g. Ricotta) rennet-coagulated (e.g. Cheddar, Parmesan, Gouda, Swiss and Camembert).
Cheese inoculants	<p>Cheese inoculants include:</p> <ul style="list-style-type: none"> the lactic acid bacteria which are added to the milk as a culture in inoculation fungi.
Cheese additives	<p>Cheese additives may be added to the milk after inoculation and include</p> <ul style="list-style-type: none"> calcium chloride nitrates colour lipases.
Cheese adjuncts	<p>Cheese adjuncts are microbial populations added to cheese in addition to the normal inoculants to:</p> <ul style="list-style-type: none"> provide consistency to flavour and texture accelerate flavour development produce specific attributes to meet market targets.
Cheese tests	<p>Cheese tests may include:</p> <ul style="list-style-type: none"> testing for pH levels, moisture levels and salt levels physical testing of cheese throughout production testing for organoleptic properties.
Homogenising equipment	<p>Homogenising equipment typically includes:</p> <ul style="list-style-type: none"> a supply pump homogeniser block homogenising valve pressure gauge back-pressure valve pressure relief valve pressure, micro-gap, centrifugal and ultrasonic homogenisers related equipment, such as: a deaeration unit.
Pasteurisation methods	<p>Pasteurisation methods may be:</p> <ul style="list-style-type: none"> batch or continuous. For hard cheeses matured more than three months at no less than 2°C, heat treatment of milk (lower temperature for the same time) may be used.

Pasteurisation equipment	<p>Pasteurisation equipment includes:</p> <ul style="list-style-type: none"> • thermometers • recorder/controllers • flow diversion devices • pumps • heat exchangers • holding and cooling stages • filters and clarifiers • vacuum breakers • direct steam injection equipment.
Curd cutting	<p>Curd cutting may be:</p> <ul style="list-style-type: none"> • manual with cutting harps • automated with mechanical knives.
Cheese pressing	<p>Cheese pressing may include:</p> <ul style="list-style-type: none"> • pressing the cheeses to the required pressure to form the shape.
Salting methods	<p>Salting methods may be by:</p> <ul style="list-style-type: none"> • either brine salting or vat salting methods and may be carried out before or after pressing, depending on the type of cheese.
Packaging methods	<p>Packaging methods may include:</p> <ul style="list-style-type: none"> • vacuum packaging in plastic, laminated foil, wax surfacing or wrapping in cloth.
Multi-phase cleaning systems	<p>Multi-phase cleaning systems may include:</p> <ul style="list-style-type: none"> • cleaning with a chlorinated alkaline detergent with a chelator, followed by water and acid rinses.
Food safety related information	<p>Food safety related information may include:</p> <ul style="list-style-type: none"> • milk counts • cheese bacterial counts • manufacture and storage details.
Cleaning standards	<p>Cleaning standards include:</p> <ul style="list-style-type: none"> • AS 4709 - 2001 Guide to cleaning and sanitising of plant and equipment in the food industry • AS 1162 - 2000 Cleaning and sanitising dairy factory equipment • AS 2541 - 1998 Guide to the cleaning-in-place of dairy factory equipment.

Unit Sector(s)

Cheese.

FDFCH4001A Carry out sampling and interpret tests for cheese production

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency covers the skills and knowledge required to carry out sampling and basic testing, and to interpret the results, for artisan cheese production.

Application of the Unit

This unit applies to production managers for artisan cheese enterprises which use small scale methods to produce specialty cheeses. The unit typically applies to staff with responsibility for developing and implementing procedures, preparing ingredients and maintaining product safety and quality throughout production. This unit includes setting and implementing sampling requirements, applying knowledge of microbiological and chemical processes in cheese making, and analysing test results and production processes to achieve the required characteristics for the cheese.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MSL973001A Perform basic tests

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Implement sampling procedures in cheese making</p>	<p>1.1 Sampling points for physical, chemical and microbial properties are identified and documented 1.2 An appropriate sampling size is determined 1.3 Sampling equipment is selected and sterilised 1.4 The sampling plan is documented and implemented</p>
<p>2. Monitor chemistry in cheese making</p>	<p>2.1 An acidity (either pH or titratable acidity) profile is recorded for each stage in the production process 2.2 Tests are carried out at stages for indicators, including salt levels, moisture levels and fat levels 2.3 Whey content is analysed for fat to gauge efficiency of curd cutting and yield potential 2.4 Safe work procedures for processes requiring handling of chemicals and/or involving chemical reactions in cheese making are reviewed and/or established</p>
<p>3. Monitor microbiological changes through the cheese making process</p>	<p>3.1 Samples are prepared for testing 3.2 Serial dilutions are accurately and aseptically carried out 3.3 Stained specimens are compared to reference samples to identify bacterial composition 3.4 Tests are performed on cultures to ensure they have adequate activity before inoculating the vat 3.5 Observations are made and data recorded for yeasts and moulds, total coliforms and staphylococci 3.6 Sampling and testing is carried out for inhibitory substances in milk 3.7 Whey is sampled for bacteriophage levels and the results interpreted</p>
<p>4. Carry out testing and interpret results to make adjustments to cheese making processes</p>	<p>4.1 Tactile and visual senses are used to detect physical and chemical changes during cheese making 4.2 Organoleptic properties of final cheese product are evaluated using sensory testing 4.3 Test results and reporting formats for information on composition, properties and reactions are recorded and interpreted 4.4 Recommended specifications for physical, chemical and microbial properties are documented 4.5 Yield efficiency is evaluated by comparing to established process control parameters 4.6 Specifications are referenced against test data 4.7 Changes to cheese making process are implemented based on</p>

ELEMENT	PERFORMANCE CRITERIA
	test results

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- apply sampling procedures in relation to the process chart for a cheese product
- sample hard cheeses using a cheese trier or sample shaft
- prepare a liquid cheese homogenate and a sample from the homogenate for microbiological analysis
- interpret measurements at stages in a cheese making process covering:
 - salt to moisture ratio (S/M)
 - moisture in the non fat substance (MNFS)
 - fat in the dry matter (FDM)
- safely perform tasks for the isolation, identification and cultivation of microorganisms
- set up and use microscope slides and a microscope
- apply the use of the Gram reaction in the identification of common types of bacteria
- interpret test results for yeasts and moulds, coliforms and staphylococci
- correctly and safely perform tests to assist in the identification of microorganisms
- apply methods for the control of growth of microorganisms
- identify safety hazards and control methods required when handling chemicals and working with processes that involve chemical reactions
- review and/or develop workplace procedures to include advice on hazards and related instructions on control methods, including advice on action required in the event of an incident, such as a chemical spill or an emergency
- read and interpret technical information to describe food properties and/or reactions, including recognising and applying appropriate units of measurement and terms
- interpret a sampling plan.

Required knowledge includes:

Knowledge of:

- use of technical terms used to communicate information on properties of food and materials commonly used in the food industry
- physical characteristics or phenomena that occur through cheese processing, including:
 - chemistry (e.g. acidity, calcium phosphate and salt levels)
 - microbiological counts
 - handle and feel of the product
 - total solids (or moisture)
 - heat and temperature
 - taste, smell and appearance of the final cheese product
- the processes where characteristics and phenomena can be observed
- processes for the making of different types of cheese

- the processing stages designed to affect the structure of these compounds (e.g. the use of fermentation to coagulate the casein micelles for acid coagulated cheeses compared to the use of rennet for rennet coagulated cheeses)
- common chemical reactions that occur, factors required to cause a reaction, and the effect of reactions are identified for cheese making, including both spontaneous and controlled reactions, such as:
 - oxidation
 - enzymic
 - Maillard
 - acid-based reactions
 - other reactions relevant to a given cheese type and production process
- physical changes that occur to ingredients and product through cheese making
- reactions and properties of carbohydrates, proteins and fats through the cheese making process
- behaviour of each type of matter and its relationship to the production process
- changes in acidity through the cheese making process and its influence on spoilage, moisture and mineral content, texture and flavour
- temperature control and its impact throughout a cheese making process
- acidity ranges for the different types of cheeses
- the significance of fermentation for the control of spoilage and pathogens in cheese, and its influence on moisture levels, mineral content, texture and flavour
- the basic molecular structures of carbohydrates, proteins and fats
- the role of enzymes in generating biological reactions (e.g. the use of rennet as a coagulating agent)
- coagulation time and setting time for rennet
- factors that influence syneresis and its importance in cheese making
- types of microbial cells and their components and functions
- the main types of microorganisms and their activity in cheese making, both those that enhance the process and those that impact negatively on cheese characteristics
- types of pathogenic bacteria that can be present in milk and cheese products
- sampling requirements for cheese making
- pH, moisture and salt gradients in brine salted cheese (need for homogeneity in sampling)
- buffering in milk and the role of casein and phosphate levels
- basic molecular structures of carbohydrates, proteins and fats
- disinfection and sterilisation as applied to practical aspects of microbiological diversity and growth
- microorganisms of significance in the production and spoilage of cheese
- testing methods and interpretation of results for salmonella, staphylococcus, listeria and E. coli in raw milk cheese
- testing methods and interpretation for bacteriophage in whey
- chemical and physical methods available for controlling microbial growth
- safety hazards and control methods
- technical information resources.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to carry out sampling and basic testing, and to interpret the results for cheese production.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to sample and interpret the results of testing, including sensory testing, and relate the results of testing to the properties of the cheese being produced.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food cheese production. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures • sampling and testing equipment and results • methods and related software systems, as required, for collecting data and calculating yields, efficiencies and material variances appropriate to the type of cheese and the production environment.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of candidate conducting a range of processes and tests • interpretation of milk and cheese analysis • simulation for sampling and interpreting tests using milk and cheese samples • written and/or oral questioning to assess knowledge and understanding • a report on a review of the sampling, testing and possible modifications to process for the manufacture of a type of cheese.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time against a range of cheese types.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity.
Policies and procedures	<p>Work is carried out according to:</p> <ul style="list-style-type: none"> company procedures regulatory and licensing requirements legislative requirements industrial awards and agreements.
Cheese types	<p>Cheese types may include any type of fermented cheese product, including:</p> <ul style="list-style-type: none"> acid-coagulated (e.g. Cottage and cream cheese) acid/heat-coagulated (e.g. Ricotta) rennet-coagulated (e.g. Cheddar, Parmesan, Gouda, Swiss and Camembert).
Cheese classification criteria	<p>Cheese classification criteria may include:</p> <ul style="list-style-type: none"> species of animal milk standardisation process coagulation moisture level pH control method acidity salting procedures ripening procedures type of rind texture melting properties.
Sampling requirements	<p>Sampling requirements may include:</p> <ul style="list-style-type: none"> a range of sampling plans which apply to fresh milks, processing milk and production stages for the range of cheeses.

<p>Sampling tools and equipment</p>	<p>Sampling tools and equipment may include:</p> <ul style="list-style-type: none"> • personal protective equipment (PPE) • sampling frames • sampling tubes • weighted sample bottles • variety of sterile containers • milk samplers • cheese triers.
<p>Raw milk quality tests</p>	<p>Raw milk quality tests may include:</p> <ul style="list-style-type: none"> • organoleptic • total plate counts • coliforms • psychrotrophes • somatic cell counts • rapid test for inhibitors • disk assay • composition (fat and protein, casein, whey protein and non-protein nitrogen, minerals and salts) • pH.
<p>Cheese tests</p>	<p>Sampling and interpretation of tests may be required for:</p> <ul style="list-style-type: none"> • pH • milk fat • cheese salt • culture activity test • bacteriophage detection • inhibitory substances (growth inhibition, enzymatic colorimetric, microbial receptor assays and immunoassays) <p>rennet activity and microbiological analysis (yeasts and moulds, total coliforms and staphylococci).</p>
<p>Principles of optimising yield</p>	<p>Principles of optimising yield include</p> <ul style="list-style-type: none"> • obtain highest moisture in non-fat substance (MNFS) with good quality • standardise milk protein to fat ratio (P/F) to obtain maximum value for milk components • minimise fat and protein losses in the whey.

Unit Sector(s)

Cheese.

FDFCH4002A Produce acid-coagulated soft cheese

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency covers the skills and knowledge required to produce acid-coagulated soft cheeses to a commercial standard.

Application of the Unit

This unit applies to production managers in cheese enterprises. The unit typically applies to managers with responsibility for developing operational procedures, controlling the cheese making process, and complying with occupational health and safety (OHS), food safety, record keeping and quality assurance requirements for soft cheeses. This unit includes all aspects of acid-coagulated soft cheese production and cheese making equipment and ingredients. Examples of acid coagulated cheeses include smooth cottage cheese, particulate cottage cheese with a cream dressing (generally known as American style cottage cheese), and cream cheese.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain sanitation in acid-coagulated soft cheese making	1.1 A high level of sanitation is maintained when transferring starter cultures to the fermentation tanks or cheese vats to prevent contamination with undesirable microorganisms and bacteriophages 1.2 All surfaces are kept clean and sanitised, except for curing boards 1.3 Stringent personal hygiene and quarantine procedures are applied 1.4 Multi-phase cleaning systems are applied to ensure sanitised surfaces and equipment 1.5 Food safety related information is recorded, as required, including milk counts and cheese bacterial counts
2. Implement procedures to prepare milk for acid-coagulated soft cheese making	2.1 Raw milk is sampled and composition and counts are measured/analysed 2.2 Clarification and standardisation procedures for raw milk are carried out 2.3 Pasteurisation procedures for milk are carried out 2.4 Raw milk area is maintained separate from pasteurised milk operations
3. Inoculate the milk to promote coagulation	3.1 Lactic culture is added to the milk and mixed evenly 3.2 Coagulating enzymes are added to the milk, if required 3.3 Even temperature is maintained at specified level throughout the tank or vat 3.4 A log of pH and temperature is maintained to control ripening and yield
4. Develop procedures to process curds	4.1 Curd breaking or cutting is carried out using correct technique and equipment to minimise loss of protein and fat as fines 4.2 Whey fat content is measured and recorded to assess curd breaking or cutting efficiency when making cheese from milk containing fat 4.3 The cooking schedule is planned to ensure optimal syneresis 4.4 Draining procedures are developed to ensure curd is at required moisture, pH level and consistency 4.5 The curd is washed, if required
5. Manage packaging procedures for acid-coagulated soft cheeses	5.1 Ripening agents are added to acid-coagulated soft cheeses, if required 5.2 Curing is optimised by planning for and adjusting the key composition ratios of acid-coagulated soft cheeses 5.3 Surface treatments are used, as required 5.4 Packaging is applied as appropriate for acid-coagulated soft

ELEMENT	PERFORMANCE CRITERIA
	cheeses 5.5 The product is labelled with complete and accurate information as specified by legislation
6. Monitor and adjust process control to produce cheese with consistent taste and quality	6.1 The process objectives of acid-coagulated soft cheese making are established 6.2 The amount of moisture in acid-coagulated soft cheese is controlled by regulating syneresis 6.3 The rate and amount of acid development in the curd is controlled by cooking and washing the curd before salting, if required 6.4 Calcium phosphate levels are adjusted to influence basic cheese structure, if required. 6.5 Texture of the cheese is controlled by regulating pH, ripening agents, salt, moisture and fat 6.6 Cheese flavour is controlled through choice of ingredients (milks, cultures, coagulating agents and salt) and pH levels 6.7 Yield is optimised by establishing process control parameters
7. Carry out sensory analysis and grading of soft cheeses	7.1 A range of flavours in cheese is identified 7.2 Different textures of cheeses are recognised 7.3 Cheese is assessed for evenness of colour and finish 7.4 Organoleptic properties of acid-coagulated soft cheese are analysed to identify possible changes to process control
8. Meet workplace requirements for food safety, quality and environmental management	8.1 Food safety related information is recorded 8.2 Records of cheese manufacture are maintained 8.3 Health and safety and environmental protection procedures are developed through a risk management approach 8.4 Waste is disposed of and environmental impacts of the cheese making operation reviewed

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- measure and mix acid coagulants and additives
- inoculate milk and control ripening in the vat
- promote syneresis to the required firmness and composition of curd
- separate whey from curd and press, if applicable, and salt curd
- monitor storage and ripening, if applicable, conditions for acid-coagulated soft cheese
- add ripening agents (lipases) and surface treatments to acid-coagulated soft cheeses
- maintain records for cheese making
- carry out packaging of cheese
- maintain hygiene and sanitation procedures in line with best manufacturing practice
- use multi-phase cleaning systems
- develop safe work practices and personal hygiene and sanitation procedures
- maintain the viability and integrity of coagulating agents
- calculate cheese yields
- develop packaging and labelling for acid-coagulated soft cheeses
- comply with environmental requirements for a processing operation.

Required knowledge includes:

Knowledge of:

- the main cheese types and the common processes for making different types of cheeses
- the main components of milk and cheese (both curds and whey)
- types and impact of inhibitory substances in milk, including bacteriophage
- purpose and basic principles of cheese making
- specifications of product at each stage of cheese making
- milk characteristics and components important in cheese making
- milk preparation for cheese making (standardisation, pasteurisation and homogenisation, if required)
- types of starters and adjuncts used and their role in the fermentation process
- effect of milk characteristics on cheese processing performance
- moisture control in cheese making
- processes of coagulation and syneresis and their role in cheese making
- curd size and its impact on moisture
- effects of pH and temperature on cheese processing performance and product quality
- microbial contaminants of cheese (lipolytic bacteria, yeasts, moulds, bacillus, listeria, E. Coli, salmonella, coliforms and staphylococci) and their impact on cheese quality
- sampling and testing procedures for microbes
- yeasts and moulds and other microorganisms of significance in cheese making

- temperature and humidity of curing
- ripening agents for different cheese types
- contamination/food safety risks associated with the process and related control measures
- techniques used to monitor the cheese making process, such as inspecting, measuring and testing, as required by the process.
- common causes of variation and corrective action required for each cheese making process
- organoleptic properties and their relationship to processes and ingredients in cheese making
- sampling procedures for cheese making
- contamination risk of inoculants and contaminants
- food safety and quality assurance standards and procedures
- cleaning and sanitation procedures in line with Australian standards for cleaning in the dairy industry
- routine maintenance procedures
- product/batch changeover procedures
- OHS hazards and controls
- procedures for recording production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to produce a range of acid-coagulated soft cheeses to a commercial standard. Assessment cannot take place on fully integrated industrial equipment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to produce acid-coagulated soft cheese to a commercial standard, including:</p> <ul style="list-style-type: none"> • developing quality procedures for: <ul style="list-style-type: none"> • sanitation, food safety, quality assurance and environmental management in acid-coagulated soft cheese production • developing work instructions for: <ul style="list-style-type: none"> • preparing milk for cheese making • coagulating milk through inoculation • controlling ripening of soft cheeses in the vat • managing acid-coagulated soft cheese making processes • packaging and labelling acid-coagulated soft cheeses • carrying out sensory analysis of acid-coagulated soft cheeses • reviewing process control based on sensory analysis and results of testing.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of cheese production. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and product specifications • sampling and testing equipment and procedures • methods and related software systems, as required, for collecting data and calculating yields, efficiencies and material variances appropriate to the type of

	cheese and the production environment.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of candidate making soft cheeses • written and/or oral questioning to assess knowledge and understanding • workplace samples of acid-coagulated soft cheeses with a documented history of process and a completed self-evaluation • composition analysis of milk and cheese for the samples presented • third-party supporting statement.
Guidance information for assessment	<p>Evidence should be gathered over a period of time against a number of batches of acid-coagulated soft cheese. Part of the evidence requirements for this unit requires that samples of at least three batches of acid-coagulated soft cheeses be produced to a commercial standard, in a real or simulated environment. Students must be assessed on their ability to control all aspects of cheese making, including sanitation and materials storage and handling.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Legislation</p>	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity.
<p>Policies and procedures</p>	<p>Work is carried out according to:</p> <ul style="list-style-type: none"> company procedures regulatory and licensing requirements legislative requirements industrial awards and agreements.
<p>Cheese tests</p>	<p>Cheese tests may include:</p> <ul style="list-style-type: none"> testing for pH levels, moisture levels, salt levels and fat and protein levels microbiological testing chemical testing physical testing of cheese throughout production testing for organoleptic properties.
<p>Cheese types</p>	<p>Cheese types include any type of acid-coagulated soft cheeses. Varieties of cheese covered by this classification include:</p> <ul style="list-style-type: none"> cottage and cream cheeses and quark <p>This unit does not cover acid-coagulated soft cheeses made in an industrial process.</p>
<p>Clarification procedures for raw milk</p>	<p>Clarification procedures for raw milk may include:</p> <ul style="list-style-type: none"> cloth filters centrifugal clarifiers and separators bactofugation membrane (micro) filtration.
<p>Milk standardisation requirements</p>	<p>Milk standardisation requirements may:</p> <ul style="list-style-type: none"> include standardisation of microflora, fat and protein, and casein/fat ratios

	<ul style="list-style-type: none"> require the addition of skim milk or skim milk solids, or the separation of cream.
Pasteurisation methods	<p>Pasteurisation methods may be:</p> <ul style="list-style-type: none"> batch or continuous.
Added ripening agents	<p>Added ripening agents may include:</p> <ul style="list-style-type: none"> milk enzymes milk coagulants lactic cultures secondary cultures microorganisms present in the milk and lipases Lipases may be added by: <ul style="list-style-type: none"> direct addition of enzymes enzyme cocktails (lipases and proteases) attenuated proteolytic cultures.
Key composition ratios of cheese	<p>Key composition ratios of cheese include:</p> <ul style="list-style-type: none"> salt to moisture ratio (S/M) moisture in the non fat substance (MNFS) fat in the dry matter (FDM) pH (acidity).
Surface treatments	<p>Surface treatments may include</p> <ul style="list-style-type: none"> ashing stamping.
Process control parameters to optimise yield	<p>Process control parameters to optimise yield include:</p> <ul style="list-style-type: none"> curd cutting heating and cooking salting too soon after milling high temperatures during pressing washing.
Principles of optimising yield	<p>Principles of optimising yield include:</p> <ul style="list-style-type: none"> obtain highest MNFS with good quality standardise milk (P/F) to obtain maximum value for milk components minimise fat and protein losses in the whey.
Packaging	<p>Packaging may include:</p> <ul style="list-style-type: none"> vacuum and/or gas flush in gas and moisture proof film plastic rigid containers oxygen permeable wrap (e.g. greaseproof paper).
Multi-phase cleaning systems	<p>Multi-phase cleaning systems require:</p> <ul style="list-style-type: none"> cleaning with a chlorinated alkaline detergent with a

	chelator, followed by water and acid rinses.
Records of cheese manufacture	Records of cheese manufacture may include: <ul style="list-style-type: none"> • timing of operations • temperature logging • milk and curd pH profile • curd weight • milk composition • cheese microbial counts • hooped yield • curing and grading data.
Food safety related information	Food safety related information may include: <ul style="list-style-type: none"> • milk counts • cheese bacterial counts • manufacture and storage details.
Cleaning standards	Cleaning standards include: <ul style="list-style-type: none"> • AS 4709 - 2001 Guide to cleaning and sanitising of plant and equipment in the food industry • AS 1162 - 2000 Cleaning and sanitising dairy factory equipment • AS 2541 - 1998 Guide to the cleaning-in-place of dairy factory equipment.

Unit Sector(s)

Cheese.

FDFCH4003A Produce a range of rennet-coagulated cheeses

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency covers the skills and knowledge required to produce a range of rennet-coagulated cheeses to a commercial standard.

Application of the Unit

This unit applies to production managers with responsibility for developing operational procedures, controlling the cheese making process, and complying with occupational health and safety (OHS), food safety, record keeping and quality assurance requirements for rennet-coagulated cheeses. This unit includes all aspects of rennet-coagulated cheese production and cheese making equipment and ingredients.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Manage sanitation in artisan cheese making	1.1 Container of starter culture is sanitised or pre-ripened under aseptic conditions before tipping the contents into the vat to reduce the risk of infection or contamination 1.2 All surfaces are kept clean and sanitised, except for curing boards 1.3 Stringent personal hygiene and quarantine procedures are applied as part of best manufacturing practice 1.4 Multi-phase cleaning systems are applied to ensure sanitised surfaces and equipment 1.5 Food safety related information is recorded, as required, including milk counts and cheese bacterial counts
2. Develop and implement procedures to prepare milk for artisan cheese making	2.1 Raw milk is sampled and composition and counts measured/analysed 2.2 Clarification and standardisation procedures for raw milk are implemented 2.3 Pasteurisation procedures for milk are carried out 2.4 Raw milk area is maintained separate from pasteurised milk operations
3. Mix ingredients in the vat for rennet-coagulated cheeses	3.1 Colour is added to the milk to change the colour of the cheese, if required 3.2 Mould spores are added for mould ripened cheeses, if required 3.3 Adjunct cultures are added to influence the texture and flavour of the ripened cheese, if required 3.4 Enzymes are added to alter the flavour profile of the ripened cheese, if required 3.5 The milk is acidified with organic or inorganic acids before renneting, if required (e.g. direct acidified Mozzarella or Bocconcini) 3.6 The milk is partly acidified with acid prior to adding culture to control the calcium phosphate level in the curd during cheese making, if required 3.7 Cultures and rennet are added to milk and held at required temperature 3.8 A log of pH and temperature is maintained
4. Cut and handle the curd for rennet-coagulated cheeses	4.1 Curd cutting is supervised to achieve optimal yield and the required moisture level in the cheese 4.2 Agitation and temperature of the curd and whey is monitored 4.3 The curd and whey is heated, if required, and checked for uneven or overheating, if heated

ELEMENT	PERFORMANCE CRITERIA
	<p>4.4 The heating schedule is planned to ensure optimal syneresis</p> <p>4.5 Part of the whey is removed and replaced with water to wash lactose and lactic acid from the curd, if required</p> <p>4.6 For large and small eye cheeses (e.g. large eye type-Swiss and small eye type-Gouda) the curd is matted under the whey before the whey is removed to ensure proper eye development</p> <p>4.7 All or part of the whey is removed from the curds by draining it out of the vat</p>
<p>5. Develop and implement salting, curing and packaging procedures</p>	<p>5.1 Procedures are implemented to prepare the curd for salting</p> <p>5.2 Salting treatments are applied to ensure salt profile effects are minimised in the finished product</p> <p>5.3 Dry salted stirred or milled curd particles are placed into moulds for pressing, if required</p> <p>5.4 Ripening procedures are carried out and the process is monitored</p> <p>5.5 Packaging is developed and applied for each cheese type</p>
<p>6. Monitor and adjust process control to produce cheese with consistent taste and quality</p>	<p>6.1 The process objectives of rennet-coagulated cheese making are established</p> <p>6.2 Moisture control is achieved in the cheeses by the use of processing factors</p> <p>6.3 The rate and the amount of acid development is controlled</p> <p>6.4 Calcium phosphate levels are controlled to influence basic cheese structure</p> <p>6.5 Texture of the cheese is controlled by regulating pH, ripening agents, salt, moisture and fat</p> <p>6.6 Cheese flavour is controlled through choice of ingredients (milks, cultures, coagulating agents and salt) and pH levels</p> <p>6.7 Process control parameters are used to achieve optimal yield</p> <p>6.8 Aging of rennet-coagulated cheeses is applied to develop optimal flavour and texture</p>
<p>7. Carry out sensory analysis and grading of artisan rennet-coagulated cheeses</p>	<p>7.1 A range of flavours in cheese are identified</p> <p>7.2 Different textures of cheeses are recognised</p> <p>7.3 Cheese is assessed for evenness of colour and finish</p> <p>7.4 Organoleptic properties of rennet-coagulated cheeses are analysed to identify possible changes to process controls</p>
<p>8. Meet workplace requirements for food safety, quality and environmental management</p>	<p>8.1 Food safety related information is recorded</p> <p>8.2 Records of cheese manufacture are maintained</p> <p>8.3 Health and safety and environmental protection procedures are developed through a risk management approach</p> <p>8.4 Waste is disposed of and environmental impacts reviewed for the cheese making operation</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- sample fresh milk and analyse results
- prepare milk for cheese making
- carry out standardisation and pasteurisation procedures
- adjust milk to renneting temperature and monitor temperature
- add optional additives to influence flavour, colour and texture during ripening
- add starter for acidification by lactic acid or acid for direct or part acidified milk for cheese making
- add rennet to promote coagulation
- test readiness of curd for cutting
- use stainless steel wire or nylon line knives to cut the curd into small particles
- carry out agitation and optional cooking procedure
- carry out cheese washing procedures
- carry out drainage operation
- carry out further curd treatment, depending on the cheese type
- carry out salting process
- manage process control for moisture, pH, calcium phosphate levels, microbiology, texture and flavour in rennet-coagulated cheese making
- carry out sampling for chemical and microbiological testing of cheese
- manage ripening process for rind cheeses, mould ripened cheeses and bacterial surface ripened cheeses for optimum quality
- assess rennet-coagulated cheeses for organoleptic qualities
- conduct tests for pH, moisture and salt levels in cheese
- maintain records for cheese making
- carry out packaging of cheese
- use multi-phase cleaning systems
- develop safe work practices and personal hygiene and sanitation procedures
- maintain the viability and integrity of coagulating agents and microbial additives
- calculate cheese yields
- develop packaging and labelling for rennet-coagulated cheeses
- comply with environmental requirements for a processing operation.

Required knowledge includes:

Knowledge of:

- the main cheese types and the common processes for making different types of rennet-coagulated cheeses
- the main components of milk and cheese (both curds and whey)

- types and impact of inhibitory substances in milk, including bacteriophage
- purpose and basic principles of cheese making
- specifications of product at each stage of rennet-coagulated cheese making
- milk characteristics and components important in cheese making
- milk preparation for cheese making (standardisation and pasteurisation)
- types of starters used and their role in the fermentation process
- types of adjunct cultures and their role in the flavour and texture characteristics of the ripened cheese
- use of additives to the milk for modifying the flavour, texture and colour of the ripened cheese
- effect of milk characteristics on cheese processing performance
- use of bacterial cultures and coagulating enzymes
- moisture control in cheese making
- processes of coagulation and syneresis and their role in rennet-coagulated cheese making
- critical control points in the manufacture of each cheese type
- principles of brine salting and maintenance of brine salting systems for brine salted cheeses
- principles of dry salting for dry salted cheeses
- effects of pH and temperature on cheese processing performance and product quality
- lactic acid bacteria and their role in cheese making
- microbial contaminants of cheese (lipolytic bacteria, yeasts, moulds, bacillus, listeria, E. coli, salmonella, coliforms and staphylococci) and their impact on cheese quality
- sampling and testing procedures for microbes
- yeasts and moulds and other microorganisms of significance in cheese making
- contamination/food safety risks associated with the process and related control measures
- techniques used to monitor the cheese making process, such as inspecting, measuring and testing
- common causes of variation and corrective action required for each cheese making process
- organoleptic properties and their relationship to process control and ingredients in cheese making
- sampling procedures
- contamination risk of inoculants and contaminants
- food safety and quality assurance standards and procedures
- yield efficiency
- cleaning and sanitation procedures in line with Australian standards for cleaning in the dairy industry
- routine maintenance procedures
- product/batch changeover procedures
- OHS hazards and controls
- procedures for recording production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to produce artisan rennet-coagulated cheeses to a commercial standard. Assessment cannot take place on fully integrated industrial equipment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to produce a range of rennet-coagulated cheeses including:</p> <ul style="list-style-type: none"> • establishing procedures for: <ul style="list-style-type: none"> • sanitation, food safety, quality assurance and environmental management in rennet-coagulated cheese production • developing work instructions for: <ul style="list-style-type: none"> • preparing milk for cheese making • coagulating milk through renneting • ensuring a suitable rate of fermentation • carrying out manufacture and curing processes to optimal levels • packaging and labelling rennet-coagulated cheeses • carrying out sensory analysis of rennet-coagulated cheeses • reviewing process control based on sensory analysis and recovered yield.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of cheese production. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, including vats, stainless steel wire knives and milling machines, manufacturers' advice and product specifications • sampling and testing equipment and procedures

	<ul style="list-style-type: none"> • methods and related software systems, as required, for collecting data and calculating yields, efficiencies and material variances appropriate to the type of cheese and the production environment.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of candidate making rennet-coagulated cheeses • written and/or oral questioning to assess knowledge and understanding • workplace samples of rennet-coagulated cheeses with a documented history of process and a completed self-evaluation • composition analysis of milk and cheese samples • third-party supporting statement.
Guidance information for assessment	<p>Evidence should be gathered over a period of time against a range of rennet-coagulated cheese products. Part of the evidence requirements for this unit requires that samples of at least three batches of rennet-coagulated cheeses be produced to a commercial standard, in a real or simulated environment. Students must be assessed on their ability to control all aspects of sanitation and materials storage and handling.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Legislation</p>	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity.
<p>Policies and procedures</p>	<p>Work is carried out according to:</p> <ul style="list-style-type: none"> • company procedures • regulatory and licensing requirements • legislative requirements • industrial awards and agreements.
<p>Cheese tests</p>	<p>Cheese tests may include:</p> <ul style="list-style-type: none"> • testing for pH levels, moisture levels, salt levels and fat and protein levels • microbiological testing • chemical testing • physical testing of cheese throughout production • testing for organoleptic properties.
<p>Cheese types</p>	<p>Cheese types may include the range of rennet-coagulated cheeses including:</p> <ul style="list-style-type: none"> • low heating temperature (<40°C) hard cheeses (e.g. Cheddar) • high temperature (>40°C) hard cheeses (e.g. Parmesan and Romano) • eye cheeses • mould ripened cheeses (e.g. Camembert and Blue) • bacterial surface ripened cheeses (e.g. Swiss Tilsit) • feta • past filata cheeses (e.g. Mozzarella).
<p>Clarification procedures for raw milk</p>	<p>Clarification procedures for raw milk may include:</p> <ul style="list-style-type: none"> • cloth filters • centrifugal clarifiers and separators

RANGE STATEMENT	
	<ul style="list-style-type: none"> • bactofugation • membrane (micro) filtration.
Milk standardisation requirements	<p>Milk standardisation requirements may:</p> <ul style="list-style-type: none"> • include standardisation of microflora, fat and protein, and casein/fat rations • require the addition of skim milk or skim milk solids, or the separation of cream.
Pasteurisation methods	<p>Pasteurisation methods may be:</p> <ul style="list-style-type: none"> • batch or continuous.
Cheese inoculants	<p>Cheese inoculants include:</p> <ul style="list-style-type: none"> • the lactic acid bacteria which are added to the milk as a culture in inoculation.
Cheese additives	<p>Cheese additives may be added to the milk after inoculation and include:</p> <ul style="list-style-type: none"> • calcium chloride • nitrates • colour (e.g. Annatto is added to Cheddar style cheeses to make a more orange colour) • lipases • adjunct cultures (e.g. Propionibacteria added to milk for Swiss type cheeses results in the large eyes and characteristic flavour of these cheeses) • enzymes (e.g. the use of lipase in some Parmesan and Romano style cheeses).
Cheese adjuncts	<p>Cheese adjuncts are microbial populations added to cheese in addition to the normal inoculants to:</p> <ul style="list-style-type: none"> • provide consistency to flavour and texture • accelerate flavour development • produce specific attributes to meet market targets <p>Adjunct cultures are essential for the correct ripening of the cheese.</p>
Rennets	<p>Rennets may include:</p> <ul style="list-style-type: none"> • enzymes (mostly chymosin) from animal stomachs • chymosin fermented by genetically modified organisms • enzymes from microbial or plant sources.
Key composition ratios of cheese	<p>Key composition ratios of cheese include:</p> <ul style="list-style-type: none"> • salt to moisture ratio (S/M) • moisture in the non fat substance (MNFS)

RANGE STATEMENT	
	<ul style="list-style-type: none"> fat in the dry matter (FDM) pH (acidity).
Process control parameters to optimise yield	<p>Process control parameters to optimise yield include:</p> <ul style="list-style-type: none"> curd cutting and subsequent agitation heating and cooking high temperatures during pressing.
Principles of optimising yield	<p>Principles of optimising yield include:</p> <ul style="list-style-type: none"> obtain highest MNFS with good quality standardise milk (P/F) to obtain maximum value for milk components minimise fat and protein losses in the whey.
Processing factors to achieve moisture control	<p>Processing factors to achieve moisture control include:</p> <ul style="list-style-type: none"> cheese making time curd particle size cooking temperature.
Preparation of the curd	<ul style="list-style-type: none"> For Cheddar and pasta filata cheeses, the curd particles may be allowed to matt before cutting and stacking as loaves, or stirred to prevent the particles from matting before the addition of dry salt. The loaves of matted curd are milled into small pieces before salting. The milled or stirred curd particles may be washed before salting For pasta filata cheeses, salted, part salted or unsalted curd is heated to ~60°C to plasticise the curd (typically by stretching in hot water or brine). The plasticised cheese is then moulded into its desired shape and the part salted or unsalted cheeses salted further in a brine solution For opened textured cheeses (e.g. Feta, Parmesan, Havarti, and most blue mould ripened cheeses) well drained curd is generally transferred from the vat into moulds before optional pressing Eye and open textured cheese types are generally pressed before salting For surface ripened soft cheeses (mould and/or bacteria), curd and part of the whey is transferred into moulds to form the shape of the cheese before salting.
Ripening procedures	<p>Ripening procedures include:</p> <ul style="list-style-type: none"> for most hard cheeses: <ul style="list-style-type: none"> the cheese may be sealed and allowed to ripen

RANGE STATEMENT	
	<p>under either temperature controlled conditions (for rindless cheeses) or allowed to ripen under temperature and humidity controlled conditions before the cheese is sealed (for rinded cheeses)</p> <ul style="list-style-type: none"> • for white or blue mould ripened cheeses, soft bacterial surface ripened cheeses (e.g. Limburger) and hard bacterial surface ripened cheeses(e.g. Swiss Tilsit): <ul style="list-style-type: none"> • the cheeses are allowed to ripen under temperature and humidity controlled conditions before the cheese is generally packaged in aerobic packaging. Some blue mould cheese and bacterial surface ripened cheese styles may be sealed at some stage during ripening • feta cheeses: <ul style="list-style-type: none"> • are generally ripened in a salt brine.
Aging of hard cheeses	<p>Aging of hard cheeses may be:</p> <ul style="list-style-type: none"> • from one to two months to several years <p>Temperature must be monitored for rindless cheeses and temperature and humidity for rind, mould ripened and bacterial surface ripened cheeses.</p>
Packaging	<p>Packaging may include:</p> <ul style="list-style-type: none"> • vacuum and/or gas flush in gas and moisture proof film • surface drying as a protective rind followed by waxing • oxygen permeable packaging for most mould and bacterial surface ripened cheese types.
Multi-phase cleaning systems	<p>Multi-phase cleaning systems require:</p> <ul style="list-style-type: none"> • cleaning with a chlorinated alkaline detergent with a chelator, followed by water and acid rinses.
Records of cheese manufacture	<p>Records of cheese manufacture may include:</p> <ul style="list-style-type: none"> • timing of operations • temperature logging • milk and curd pH profile • curd weight • milk composition • cheese microbial counts • hooped yield • curing and grading data.

RANGE STATEMENT	
Food safety related information	Food safety related information may include: <ul style="list-style-type: none">• milk counts• cheese bacterial counts• manufacture and storage details.
Cleaning standards	Cleaning standards include: <ul style="list-style-type: none">• AS 4709 - 2001 Guide to cleaning and sanitising of plant and equipment in the food industry• AS 1162 - 2000 Cleaning and sanitising dairy factory equipment• AS 2541 - 1998 Guide to the cleaning-in-place of dairy factory equipment.

Unit Sector(s)

Cheese.

FDFCH4004A Produce acid - heat coagulated cheese

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency covers the skills and knowledge required to produce a range of acid/heat-coagulated cheeses to a commercial standard.

Application of the Unit

This unit applies to production managers in cheese enterprises. The unit typically applies to managers with responsibility for developing operational procedures, controlling the cheese making process, and complying with occupational health and safety (OHS), food safety, record keeping and quality assurance requirements for acid/heat-coagulated cooked cheeses. This unit includes all aspects of acid/heat-coagulated cooked cheese production and cheese making equipment and ingredients.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Maintain sanitation in making acid/heat-coagulated cheese</p>	<p>1.1 All surfaces are kept clean and sanitised, except for curing boards</p> <p>1.2 Stringent personal hygiene and quarantine procedures are applied</p> <p>1.3 Multi-phase cleaning systems are applied to ensure sanitised surfaces and equipment</p> <p>1.4 Food safety related information is recorded, as required, including milk counts and cheese bacterial counts</p>
<p>2. Implement procedures to prepare whey, milk/whey blends or cream for artisan acid/heat-coagulated cheese making</p>	<p>2.1 Raw milk or cream is sampled and composition and counts are measured/ analysed</p> <p>2.2 Clarification and standardisation procedures are carried out for raw milk or cream</p> <p>2.3 Fresh whey is heated to prevent further acidification if required</p> <p>2.4 Raw milk or cream area is maintained separate from other operational areas</p>
<p>3. Promote coagulation of both curds and whey</p>	<p>3.1 The temperature of dairy liquid is raised to that required</p> <p>3.2 The hot liquid is acidified to coagulate both casein and whey proteins</p> <p>3.3 The curd is held in the curd/whey mixture after coagulation</p> <p>3.4 A log of pH and temperature is maintained to monitor yield</p> <p>3.5 Draining is carried out</p>
<p>4. Manage cooking and packaging procedures for acid/heat-coagulated cheeses</p>	<p>4.1 The cooking schedule is planned to ensure optimal coagulation of proteins</p> <p>4.2 Draining procedures are developed to ensure cheese is at required consistency</p> <p>4.3 Salting treatments are applied to ensure salt profile effects are minimised in the finished product</p> <p>4.4 Cheeses are cooled before packing, if required</p> <p>4.5 Aseptic conditions are maintained during cooling to minimise contamination with microbial contaminants</p> <p>4.6 Packaging appropriate for acid/heat-coagulated cooked cheeses is applied</p> <p>4.7 The product is labelled with complete and accurate information as specified by legislation</p>
<p>5. Monitor and adjust process control to produce cheese with consistent taste and quality</p>	<p>5.1 The process objectives of acid/heat-coagulated cooked cheese making are established</p> <p>5.2 Texture of the cheese is controlled by regulating pH and fat</p> <p>5.3 Cheese flavour is controlled through choice of ingredients (whey, milk, cream, acidulant and salt)</p>

ELEMENT	PERFORMANCE CRITERIA
	5.4 Yield is optimised through establishing process control parameters
6. Carry out sensory analysis and grading of acid/heat-coagulated cheeses	6.1 The characteristic flavours and flavour defects in cheese are identified 6.2 Different textures of cheeses are recognised 6.3 Cheese is assessed for evenness of colour and finish 6.4 Organoleptic properties of acid/heat-coagulated cooked cheese are analysed to identify possible changes to process controls
7. Meet workplace requirements for food safety, quality and environmental management	7.1 Food safety related information is recorded 7.2 Records of cheese manufacture are maintained 7.3 Health and safety and environmental protection procedures are developed through a risk management approach 7.4 Waste is disposed of and environmental impacts of the cheese making operation are reviewed

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- acidify a heated milk mixture to promote coagulation
- carry out drainage operations
- recover curd in the cheese
- monitor storage and ripening, if applicable, conditions for acid/heat-coagulated cheese
- conduct tests for pH, moisture, fat and salt levels in cheese
- maintain records for cheese making
- use multi-phase cleaning systems
- develop safe work practices and personal hygiene and sanitation procedures
- maintain the integrity of acidifying agents
- maintain hygiene in line with Australian standards for cleaning dairy equipment
- calculate cheese yields
- develop packaging and labelling for acid/heat-coagulated cooked cheeses
- comply with environmental requirements for a processing operation.

Required knowledge includes:

Knowledge of:

- the main components of milk, whey and cream for making acid/heat-coagulated cheese
- specifications of product at each stage of cheese making
- standardisation of dairy liquids for acid/heat-coagulated cheese
- types of acid used for coagulation
- microbial contaminants of cheese (lipolytic bacteria, yeasts, moulds, bacillus, listeria, E. coli, salmonella, coliforms and staphylococci) and their impact on cheese quality
- sampling and testing procedures for microbes
- yeasts and moulds and other microorganisms of significance in cheese making
- contamination/food safety risks associated with the process and related control measures
- techniques used to monitor the cheese making process, such as inspecting, measuring and testing, as required by the process
- common causes of variation and corrective action required for each cheese making process
- organoleptic properties and their relationship to processes and ingredients in cheese making
- sampling procedures
- contamination risk of inoculants and contaminants
- food safety and quality assurance standards and procedures
- cleaning and sanitation procedures and Australian standards
- routine maintenance procedures
- product/batch changeover procedures
- OHS hazards and controls

- hygiene procedures including washing and decontamination
- Food Standards Code
- procedures for recording production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to produce acid/heat-coagulated cheeses to a commercial standard. Assessment cannot take place on fully integrated industrial equipment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to produce acid/heat-coagulated cheeses to a commercial standard, including:</p> <ul style="list-style-type: none"> • establishing procedures for: <ul style="list-style-type: none"> • sanitation, food safety, quality assurance and environmental management in acid/heat-coagulated cheese production • developing and implementing work instructions to: <ul style="list-style-type: none"> • prepare dairy liquids for cheese making • coagulate dairy liquid through adding acid to heated milk • carry out cooking processes • package and label acid/heat-coagulated cheeses • carry out sensory analysis of acid/heat-coagulated cheeses • review process control based on sensory analysis.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of cheese production. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and product specifications • sampling and testing equipment and procedures • methods and related software systems, as required, for collecting data and calculating yields, efficiencies and material variances appropriate to the type of cheese and the production environment.

Method of assessment	The following assessment methods are suggested: <ul style="list-style-type: none">• observation of candidate making acid/heat-coagulated cheeses• written and/or oral questioning to assess knowledge and understanding• workplace samples of acid/heat-coagulated cheeses with documented procedures• composition analyses of milk and cheese samples• third-party supporting statement.
Guidance information for assessment	Evidence should be gathered over a period of time against a number of batches of acid/heat-coagulated cooked cheeses. Part of the evidence requirements for this unit requires that samples of at least three batches of acid/heat-coagulated cheeses be produced to a commercial standard, in a real or simulated environment. Students must be assessed on their ability to control all aspects of cheese making including sanitation and materials storage and handling.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity.
Policies and procedures	<p>Work is carried out according to:</p> <ul style="list-style-type: none"> company procedures regulatory and licensing requirements legislative requirements industrial awards and agreements
Cheese tests	<p>Cheese tests may include:</p> <ul style="list-style-type: none"> testing for pH levels, moisture levels, salt levels, fat and protein levels microbiological testing chemical testing physical testing of cheese throughout production testing for organoleptic properties.
Cheese types	<p>Cheese types may include:</p> <ul style="list-style-type: none"> any type of heat/acid precipitated (acid/heat-coagulated) cheeses (e.g. Ricotta (Italy) and Channa (India)).
Clarification procedures for raw milk	<p>Clarification procedures for raw milk may include:</p> <ul style="list-style-type: none"> cloth filters centrifugal clarifiers and separators bactofugation membrane (micro) filtration.
Milk standardisation requirements	<p>Milk standardisation requirements may:</p> <ul style="list-style-type: none"> include standardisation of fat and protein, and casein/fat rations require the addition of whey, skim milk or skim milk solids, or the separation of cream.
Key composition of cheese	<p>Key composition of cheese includes:</p>

	<ul style="list-style-type: none"> • salt • moisture • fat • pH (acidity).
Process control parameters to optimise yield	<p>Process control parameters to optimise yield include:</p> <ul style="list-style-type: none"> • milk temperature • pH of hot curd-whey mixture • recovery of protein • draining.
Principles of optimising yield	<p>Principles of optimising yield include:</p> <ul style="list-style-type: none"> • standardise milk (P/F) to obtain maximum value for milk components • minimise fat and protein losses in the whey.
Packaging	<p>Packaging may include:</p> <ul style="list-style-type: none"> • vacuum and/or gas flush in gas and moisture proof film • plastic rigid containers • oxygen permeable wrap (e.g. greaseproof paper).
Multi-phase cleaning systems	<p>Multi-phase cleaning systems require:</p> <ul style="list-style-type: none"> • cleaning with a chlorinated alkaline detergent with a chelator, followed by water and acid rinses.
Records of cheese manufacture	<p>Records of cheese manufacture may include:</p> <ul style="list-style-type: none"> • timing of operations • temperature logging • milk and curd pH profile • recovery of curd-whey • milk composition • cheese microbial counts • hooped yield • curing and grading data.
Food safety related information	<p>Food safety related information may include:</p> <ul style="list-style-type: none"> • milk counts • cheese bacterial counts • manufacture and storage details.

Unit Sector(s)

Cheese.

FDFCON2001A Examine raw ingredients used in confectionery

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to identify the key characteristics of raw materials used in confectionery products to support the achievement of production specifications.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a production environment. It targets knowledge of confectionery raw ingredients and skills to recognise reactions to production processes. This unit typically targets the production worker responsible for the operation and monitoring of confectionery equipment and processes.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Define raw ingredients used in confectionery production	1.1. Key confectionery groups are identified and features described 1.2. Commonly used raw ingredients and their origins are identified 1.3. Types of carbohydrates used in confectionery are identified 1.4. Types of sweeteners used in confectionery are identified 1.5. Grades and properties of sugar are described 1.6. Types of starches and glucose syrups are identified 1.7. Types of fats used in confectionery are identified
2. Identify the effects of raw materials in confectionery production	2.1. Effects of using different types of commonly used raw ingredients in confectionery are identified 2.2. Effects of using different types of carbohydrates and fats in confectionery are identified 2.3. Effects of using different types of sugars in confectionery are identified 2.4. Effects of using types of starches and glucose syrups in confectionery are identified 2.5. Effects of temperature and water on raw ingredients are identified 2.6. Effects of production processes on raw ingredients are examined and described
3. Identify processing requirements for raw materials	3.1. Specifications for production are identified 3.2. Implications for processing of raw materials are identified 3.3. Common problems associated with raw materials are identified 3.4. Actions required to address common problems are identified 3.5. Storage and handling requirements for raw ingredients are identified 3.6. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access and interpret workplace information on raw materials
- examine production specifications
- identify raw materials, uses and characteristics
- identify sources of raw materials and key features
- assess consequences of different uses of raw materials
- identify requirements for achieving quality standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- raw materials used in confectionery
- origins of raw materials
- confectionery product types
- characteristics of raw materials
- effects and uses of raw materials
- common problems and action required
- types of carbohydrates and uses
- types of sweeteners and uses
- types of starches and glucose syrups and uses
- storage and handling requirements for raw materials

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify the key confectionery groups and the main raw materials used • describe the effects of raw materials in confectionery • describe the effects of temperature and water on raw materials • describe the effects of the production process on raw materials • identify common problems with raw materials in the production process and determine required action • access and interpret workplace information on raw materials.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • recipe/batch instructions • specifications, control points and processing parameters • process and related equipment and services, including mixing equipment, cookers and coolers. It may also include further processing equipment as required • ingredients used in the preparation of high/low boil product as required • sampling schedules and test procedures and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Key confectionery groups	<p>Key confectionery groups include:</p> <ul style="list-style-type: none"> • high boils, cream pastes, toffees caramels and fudge • fondants • jellies, gums and pastilles • liquorice • honeycomb, meringues, marshmallows and nougats • panned products • chewing gum • chocolate • sugar free products

RANGE STATEMENT	
Common raw materials	<p>Commonly used raw materials include:</p> <ul style="list-style-type: none"> • sugar and other sweeteners • milk products • cocoa • fat/oil • fruits and nuts • gelling agents, such as starch, gelatine, pectins and gums • additives, such as flavourings, colouring, lecithin and other emulsifiers, acids and preservatives
Types of carbohydrates	<p>Types of carbohydrates covered by this unit must include:</p> <ul style="list-style-type: none"> • Monosaccharides, such as glucose (dextrose), galactose, fructose, mannose, arabinose and xylose • Disaccharides, such as sucrose, lactose and maltose • Oligosaccharides, such as polydextrose, polyols, maltodextrins, hydrogenated starch hydrolysates, fructooligosaccharide and galctooligosaccharide • Polysaccharides, such as starch, dextrans, cellulose, vegetable gums and glycogen
Types of sweeteners	<p>Types of sweeteners include:</p> <ul style="list-style-type: none"> • sugar (raw, refined) • sucrose • molasses • brown sugar • honey • golden syrup • treacle • malt extract • licorice block
Grade of sugar	<p>Grade of sugar includes:</p> <ul style="list-style-type: none"> • caster sugar • icing sugar • liquid sugar

RANGE STATEMENT	
Characteristics of sugar	Characteristics of sugar include: <ul style="list-style-type: none"> • sweetness • solubility • crystallisation • inversion
Types of starches and glucose syrups	Types of starches and glucose syrups include: <ul style="list-style-type: none"> • wheat • maize (corn) • rice • potato • grain • modified
Characteristics of starch	Characteristics of starch include: <ul style="list-style-type: none"> • birefringence • viscosity
Uses of glucose	Uses of glucose include: <ul style="list-style-type: none"> • anti-graining • resistance to activity by microorganisms • increasing product viscosity

]

Unit Sector(s)

Unit sector	Confectionery
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFCON2002A Operate a boiled confectionery process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a high boil and low boil confectionery process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of confectionery boiling equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the high/low boil equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Ingredients for syrup are selected and combined in the sequence specified by batch/recipe instructions 1.3. Cleaning and maintenance requirements and status of high/low boil process equipment are identified and confirmed 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the high/low boil process	2.1. Ingredients and additives are delivered in the required quantities and sequence to meet recipe specifications 2.2. The process is started and operated according to workplace procedures 2.3. Equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. Product is heated, cooked and cooled according to specification 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the high/low boil process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify high/low boil process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust high/low boil process equipment to achieve required outcomes, including combining ingredients in correct sequence according to recipe instructions, setting dosing/metering and related addition systems, loading or controlling loading of bulk ingredients, setting temperatures and operating vacuum
- monitor control points and conduct inspections as required to confirm process remains within specification, such as:
 - mixing tank temperature
 - cooking temperatures
 - vacuum settings (where relevant)
 - moisture content
 - ingredient addition as required
 - product weight
 - appearance and organoleptic characteristics
- monitor supply and flow of materials to and from the high/low boil process
- demonstrate changeover procedures
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take high/low boil process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the high/low boil process relating to the range of products to be produced, such as:
 - ingredients used and their purpose
 - syrup making (super saturated solutions)
 - relationship between temperature and moisture content
 - the effect of vacuum on processing
 - reactions such as crystallisation
 - process stages
 - maturation and further processing requirements
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, the effect of vacuum on the cooking process and further processing, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the high/low boil process and the effect of outputs on downstream processes
- quality requirements of materials used in low/high boil manufacture and effect of variation on process performance and outputs
- quality characteristics required of process outputs
- methods used to further process high and low boils, such as basic forming or extruding and stamping, cooling, pulling and aerating as required by product range
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the high/low boil process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the high/low boil process and related control measures
- common causes of variation and corrective action required

REQUIRED SKILLS AND KNOWLEDGE

- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the high/low boil process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the high/low boil process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for confectionery boiling • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • recipe/batch instructions • specifications, control points and processing parameters • process and related equipment and services, including mixing equipment, cookers and coolers. It may also include further processing equipment as required • ingredients used in the preparation of high/low boil product as required • sampling schedules and test procedures and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
High boil products	<p>Examples of high boil products include:</p> <ul style="list-style-type: none"> solid striped filled confectionery
Low boil products	<p>Examples of low boil products may include:</p> <ul style="list-style-type: none"> caramels, nougats, creams, fudge, fondant, toffee, marshmallows, gums, jellies, liquorice, paste, lozenges and fruit bars
Product ingredients	<p>Product ingredients may include:</p> <ul style="list-style-type: none"> sugar substitutes
Typical equipment	Typical equipment includes:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pan or vacuum cookers • cold or marble tables and further processing equipment depending on use, such as forming, filling, pulling, beating, stamping, cooling equipment and crystallising/beating equipment
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Confectionery
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

FDFCON2003A Operate a chocolate conching process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a conching process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a confectionery production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of conching machines and equipment in a batch or continuous production process.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the conching equipment and process for operation	1.1. Refined mass is available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the conching process	2.1. The conching process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the conching process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify conching process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary refined mass and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings to achieve required particle size, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- load materials in required sequence and work flake to specification
- sequence ingredient addition to meet recipe specifications
- monitor and adjust process equipment to achieve required outcomes, including testing and adjusting viscosity and monitoring other control points as required to confirm process is within specification, such as:
 - ingredient addition sequence
 - mix times
 - temperature
 - amperage/work input
- monitor supply and flow of materials to and from the conche
- demonstrate changeover procedures (unless continuous process)
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take conching process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of conching chocolate, including:
 - processing stages in chocolate making and the role of conching
 - ingredients used in chocolate and those added during conching, such as ingredients in different types of chocolate as appropriate to production requirements and an understanding of the quality requirements and role of each main ingredient
 - changes that occur in ingredients during conching
 - significance of viscosity and methods of adjustment
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the conching process and the effect of outputs on downstream processes
- quality requirements of mass and ingredients used, and effect of variation on process performance and outputs
- quality characteristics required of the conching stage
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the conching process, including an understanding of viscosity testing procedures and other inspections and tests as required
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the conching process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the conching process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for conching • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • recipe/batch instructions • specifications, control points and processing parameters • conche and related equipment and services • flake and ingredients for addition at the conching stage • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Conching and related equipment	<p>Conching and related equipment may include:</p> <ul style="list-style-type: none"> ingredient addition equipment continuous or batch conches conveyor systems
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (iIn some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples

RANGE STATEMENT

	include: <ul style="list-style-type: none"> • power • steam • water • compressed and instrumentation air
--	--

Unit Sector(s)

Unit sector	Confectionery
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFCON2004A Operate a chocolate depositing or moulding process

Modification History

Not applicable.

Unit Descriptor

<p>Unit descriptor</p>	<p>This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a depositing process that deposits chocolate into moulds or directly onto conveyors.</p>
-------------------------------	---

Application of the Unit

<p>Application of the unit</p>	<p>This unit has application in a confectionery production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of equipment used to produce hollow, solid and filled chocolate products.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
---------------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the depositing equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Equipment and ingredients are conditioned to meet production requirements 1.3. Cleaning and maintenance requirements and status are identified and confirmed 1.4. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.5. Processing/operating parameters are entered as required to meet safety and production requirements 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the depositing/moulding process	2.1. The process is started and operated according to workplace procedures 2.2. Chocolate is deposited to achieve required coverage 2.3. Equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The process is monitored to confirm that specifications are met 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the depositing/moulding process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify chocolate depositing process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate depositing head or settings, cancelling isolation or lockouts as required, confirming that equipment is clean, conditioning moulds/equipment and ingredients to specified temperature, confirming that depositing head is correctly aligned, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust chocolate depositing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - the supply of chocolate and centres to process as required
 - temperatures of chocolate, moulds, depositor head, injection plate and conveyor as required
 - pump stroke settings
 - temperature profile of cooling tunnel
 - deposited chocolate position/coverage
 - shrinkage/demoulding process as required
 - shell to filling weight ratio as required
 - appearance of deposited product
- monitor supply and flow of materials to and from the chocolate depositing process and equipment operation to confirm process remains within specification
- demonstrate product/batch changeovers
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- collect samples and conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the chocolate depositing process, including ingredients used, handling and conditioning requirements and process stages
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the chocolate depositing process and the effect of outputs on downstream processes
- quality characteristics and types of chocolate used for depositing,
- quality requirements of centres as appropriate to product and the effect of variation on process outputs
- quality characteristics to be achieved by the deposited product
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the chocolate depositing process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the chocolate depositing process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the chocolate depositing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the chocolate depositing process,

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>including waste/rework collection and handling procedures related to the process</p> <ul style="list-style-type: none">• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for depositing chocolate
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- recipe/batch instructions
- specifications, control points and processing parameters
- process and related equipment and services
- chocolate and related ingredients, such as fillings and centres
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Ingredients	<p>Ingredients may include:</p> <ul style="list-style-type: none"> • chocolate and fillings or centres
Coverage of moulds	<p>Coverage of moulds can be achieved by:</p> <ul style="list-style-type: none"> • vibrating, spinning and/or inverting
Typical equipment	<p>Typical equipment includes:</p> <ul style="list-style-type: none"> • pump • depositor head • nozzle/injection plate • moulds • vibrators and shakers • cooling tunnel
Operation of equipment and	Operation of equipment and processes may

RANGE STATEMENT	
processes	require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power compressed and instrumentation air

Unit Sector(s)

Unit sector	Confectionery
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFCON2005A Operate a confectionery depositing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required set up, operate, adjust and shut down a depositing process to deposit into solid or flexible moulds. This is sometimes known as starchless moulding.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a confectionery production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of equipment used to deposit confectionery.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the depositing equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements 1.7. Syrup is transferred to depositing equipment
2. Operate and monitor the depositing process	2.1. The depositing process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The depositing process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the depositing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify depositing processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, setting up depositor controls, cooling parameters and demoulding process to meet production requirements, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust depositing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - the supply of syrup to hopper
 - controlling weight of liquid deposited in mould
 - visual inspections to identify faults, such as tailings and placement of liquid in mould
 - pump stroke settings
 - cooling tunnel temperature profile
 - shrinkage/demoulding process
- monitor supply and flow of materials to and from the depositing process to confirm process remains within specification
- set up and operate finishing equipment as required
- demonstrate product changeover procedures
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take depositing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the depositing process, such as product preparation and conditioning requirements and product depositing
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the depositing process and the effect of outputs on downstream processes
- quality requirements of materials for depositing and effect of variation on depositing process performance and outputs
- quality characteristics required of process outputs
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the depositing process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the depositing process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the depositing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the depositing process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for confectionery depositing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • recipe/batch instructions • specifications, control points and processing parameters • process and related equipment and services, including conditioned moulds and depositing equipment • ingredients/mix to be deposited • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Typical equipment	<p>Typical equipment includes:</p> <ul style="list-style-type: none"> a depositing hopper nozzles and manifold moulds finishing equipment, such as blowing, oiling or sugaring cooling tunnel <p>Related processes may include:</p> <ul style="list-style-type: none"> syrup preparation
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Confectionery
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFCON2006A Operate a granulation and compression process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a granulation and compression process
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a confectionery production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of granulation and compression equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the granulation equipment and process for operation	1.1. Ingredients and additives are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. The granulation process is set to production specifications 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Prepare the compression process for operation	2.1. Granulated materials are confirmed and available to meet operating requirements 2.2. The compression process is set to production specifications 2.3. Equipment performance is checked and adjusted as required 2.4. Pre-start checks are carried out as required by workplace requirements
3. Operate and monitor the granulation and compression process	3.1. The process is started and operated according to workplace procedures 3.2. Ingredients are combined in specified sequence 3.3. The granulation process is monitored to confirm granules of the required particle size are produced 3.4. The compression process produces compressed product to specification 3.5. Equipment is monitored to identify variation in operating conditions 3.6. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 3.7. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 3.8. The work area is maintained according to housekeeping standards 3.9. Work is conducted in accordance with workplace environmental guidelines 3.10. Workplace records are maintained according to workplace recording requirements

ELEMENT	PERFORMANCE CRITERIA
4. Shut down the compression process	4.1. The appropriate shutdown procedure is identified 4.2. The process is shut down according to workplace procedures 4.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify granulation and compression process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust granulation process equipment to achieve required outcomes, including preparing granulated mix according to recipe instructions, monitoring control points and conducting inspections as required to confirm process remains within specification
- monitor process, including:
 - granule size
 - moisture content
 - fines
 - supply of materials
 - product appearance
 - product weight, thickness and hardness, friability (this may require demonstration of related test procedures)
- monitor supply and flow of materials to and from the granulation process and equipment operation to confirm process remains within specification
- start, operate, monitor and adjust compression process equipment to achieve required outcomes, including installing/setting punches and dies
- monitor supply and flow of materials to and from the compression process to confirm process remains within specification
- demonstrate product/batch changeovers
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility

REQUIRED SKILLS AND KNOWLEDGE

- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the granulation and compression process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the granulation and compression process and the effect of outputs on downstream processes
- quality requirements of ingredients for granulating and effect of variation on the granulation process
- quality requirements of granulated mass and effect of variation on compression process
- operating requirements of both granulation and compression, related parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the granulation and compression process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the granulation and compression process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the granulation and compression process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities

REQUIRED SKILLS AND KNOWLEDGE

- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the granulation and compression process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for confectionery granulation and compression
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- recipe/batch instructions
- specifications, control points and processing parameters
- process and related equipment and services, including granulation and compression equipment
- materials to be processed
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Granulation process	<p>Granulation process may be:</p> <ul style="list-style-type: none"> • wet or dry
Raw materials/ingredients	<p>Raw materials/ingredients are added to the base product, and may include:</p> <ul style="list-style-type: none"> • adhesives/binders • lubricants • fillers • colours and flavours
Granulating equipment	<p>Granulating equipment may include:</p> <ul style="list-style-type: none"> • ribbon mixers • granulators • sieves

RANGE STATEMENT	
	<ul style="list-style-type: none"> • hammer mills • dryers
Compressing equipment and accessories	<p>Compressing equipment and accessories may include:</p> <ul style="list-style-type: none"> • single or rotary punch compressors • punches and dies
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
In-process tests	<p>In-process tests may include:</p> <ul style="list-style-type: none"> • appearance • hardness • friability • disintegration time • weight • dimensions
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Confectionery
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFCON2007A Operate a panning process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a panning process to coat tablets and/or centres.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a confectionery production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of panning processes and equipment.</p> <p>When the panning operator is responsible for syrup preparation, refer to FDFCON2002A Operate a boiled confectionery process.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the panning equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Centres and coating are selected and prepared according to batch/recipe instructions 1.3. Cleaning and maintenance requirements and status are identified and confirmed 1.4. The panning process is prepared to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the panning process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the panning process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify panning processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including necessary centres and coating material (syrup, film or chocolate)
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust panning process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - pan preparation/coating
 - coating addition rate
 - sieving
 - colour addition
 - drying air temperature and flow
 - addition of polishing agent/gum
- monitor supply and flow of materials to and from the panning process to confirm process remains within specification
- take corrective action in response to out-of-specification results
- follow workplace procedures for reworking scrap or out-of-specification product
- demonstrate product/batch changeovers
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the panning process, such as centre preparation/conditioning procedures and requirements, coating preparation and the stages in the panning process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the panning process and the effect of outputs on downstream processes
- conditioning requirements for centres and coatings
- quality characteristics of centres and coatings for use in the panning process and the effect of variation on panning process performance and outputs
- quality characteristics to be achieved by the process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the panning process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- food safety/contamination risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the panning process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the panning process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for panning
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- recipe/batch instructions
- specifications, control points and processing parameters
- process and related equipment and services
- materials to be processed, including centres and coating ingredients
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Common applications	<p>Common applications of this process occur in:</p> <ul style="list-style-type: none"> • the confectionery and pharmaceutical industries
Coatings	<p>Coatings may include:</p> <ul style="list-style-type: none"> • hard and soft sugar or sugar-free syrup • chocolate coating
Equipment	<p>Typical equipment includes:</p> <ul style="list-style-type: none"> • coating pans • polishing pans • air blowing units • jacketed spray nozzles/heads
Operation of equipment and	Operation of equipment and processes may

RANGE STATEMENT	
processes	require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam compressed and instrumentation air

Unit Sector(s)

Unit sector	Confectionery
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFCON2008A Operate a chocolate refining process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a chocolate mixing and refining process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a confectionery production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of mixing and refining equipment used in the manufacture of chocolate.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare and mix ingredients	1.1. Ingredients are confirmed and available to meet operating requirements 1.2. Mixing processing/operating parameters are entered as required to meet safety and production requirements 1.3. Ingredients and additives are delivered to the mixer in the required quantities and sequence to meet recipe specifications 1.4. The mixing process is started and operated according to workplace procedures 1.5. Equipment is monitored to identify variation in operating conditions 1.6. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 1.7. The mixing process is monitored to confirm that specifications are met 1.8. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification
2. Prepare the refining equipment and process for operation	2.1. Mix is available to meet operating requirements 2.2. Cleaning and maintenance requirements and status are identified and confirmed 2.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 2.4. Processing/operating parameters are entered as required to meet production requirements 2.5. Equipment performance is checked and adjusted as required 2.6. Pre-start checks are carried out as required by workplace requirements
3. Operate and monitor the refining process	3.1. The refining process is started and operated according to workplace procedures 3.2. Equipment is monitored to identify variation in operating conditions 3.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 3.4. The process is monitored to confirm that specifications are met

ELEMENT	PERFORMANCE CRITERIA
	<p>3.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>3.6. The work area is maintained according to housekeeping standards</p> <p>3.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>3.8. Workplace records are maintained according to workplace recording requirements</p>
4. Shut down the refining process	<p>4.1. The appropriate shutdown procedure is identified</p> <p>4.2. The process is shut down according to workplace procedures</p> <p>4.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify mixing and refining process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary ingredients and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings to achieve required particle size, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- sequence ingredient addition to the mixer to meet recipe specifications
- start, operate, monitor and adjust process equipment to achieve required outcomes, including setting dosing/metering and related addition systems, loading or controlling loading of bulk ingredients, monitoring control points and conducting inspections as required to confirm process remains within specification
- monitor process, including:
 - ingredient addition sequence
 - mix times
 - throughput to refiner
 - roller gap/particle size
- monitor supply and flow of materials to and from the mixing and refining
- demonstrate changeover procedures
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take refining process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for

REQUIRED SKILLS AND KNOWLEDGE

clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of mixing and refining chocolate, including:
 - processing stages in chocolate making and the role of mixing, refining and pre-refining as appropriate
 - ingredients used in chocolate and those introduced during refining, such as ingredients in different types of chocolate as appropriate to production requirements and an understanding of the quality requirements and role of each main ingredient
 - changes that occur in ingredients during mixing and refining
 - significance of particle size for product characteristics
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the mixing and refining process and the effect of outputs on downstream processes
- quality requirements of ingredients used and effect of variation on process performance and outputs
- quality characteristics required of the refined mass
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the mixing and refining process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the mixing and refining process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the mixing and refining process,

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>including waste/rework collection and handling procedures related to the process</p> <ul style="list-style-type: none">• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for refining chocolate
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- recipe/batch instructions
- specifications, control points and processing parameters
- process and related equipment and services, including mixing equipment and refiner. It may also include pre-refining equipment as required
- ingredients for inclusion in the mixing/refining stage
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competence relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Refining and related equipment	<p>Refining and related equipment may include:</p> <ul style="list-style-type: none"> • bulk materials handling equipment • continuous or batch mixers/kneaders • pre-refiners and refiners • conveyor systems
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT**Services**

Services may need to be confirmed. These depend on the nature of the process. Typical examples include:

- power
- steam
- water
- compressed and instrumentation air

Unit Sector(s)**Unit sector**

Confectionery

Competency field**Competency field****Co-requisite units****Co-requisite units**

FDFCON2009A Operate a starch moulding process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down sugar moulded products using a starch moulding process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a confectionery production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of starch moulding equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the starch moulding equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Starch is correctly conditioned for moulding</p> <p>1.3. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.4. Starch mould is prepared to meet production requirements</p> <p>1.5. Processing/operating parameters are selected for the depositor, starch moulding and starch removal equipment to meet safety and production requirements</p> <p>1.6. Ingredients/mix is transferred to depositing equipment</p> <p>1.7. Equipment performance is checked and adjusted as required</p> <p>1.8. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the starch moulding and removal process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that specifications are met</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the starch moulding process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify starch moulding processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including confirming starch condition and mould type
- prepare product for depositing, such as ingredient addition, mixing and cooking to specification
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- deposit and stamp starch moulds
- set up destarching and finishing equipment, such as blowing, oiling or sugaring clean starch and drying starch for re-use
- start, operate, monitor and adjust starch moulding process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - the supply of liquid mass to hopper
 - controlling weight of liquid deposited in mould
 - monitoring pump stroke settings
 - conducting visual inspections to identify faults, such as tailings and placement of liquid in mould
- monitor supply and flow of materials to and from the starch moulding process and equipment operation to confirm process remains within specification
- demonstrate depositor head changeovers
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the starch moulding process, including an understanding of each stage:
 - starch mould preparation
 - product preparation and conditioning
 - product depositing
 - starch use and recovery cycle
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the starch moulding and depositing process and the effect of outputs on downstream processes
- quality requirements of starch moulds and materials for depositing and effect of variation on starch moulding process performance and outputs, including the moisture absorption characteristics of starch and impact on the process
- quality characteristics required of process outputs
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the starch moulding process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the starch moulding process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the starch moulding process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage

REQUIRED SKILLS AND KNOWLEDGE

- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the starch moulding process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for starch moulding • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • recipe/batch instructions • specifications, control points and processing parameters • process and related equipment and services, including moulds, starch stamping and mould preparation and depositing equipment • materials to be processed, including starch for moulding and ingredients/mix to be deposited • sampling schedules and test procedures and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	<p>procedures</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role: Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Starch moulded products	<p>Typical starch moulded products include:</p> <ul style="list-style-type: none"> • gums and jellies • marshmallows • caramels
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • starch • low or high boil syrups
Equipment	<p>Typical equipment includes:</p> <ul style="list-style-type: none"> • boiling pans (batch) • moguls (continuous process) • drying room and starch cleaning equipment

RANGE STATEMENT	
	Related processes may include: <ul style="list-style-type: none"> • mixing and cooking of ingredients prior to depositing
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Confectionery
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFDP2001A Operate a butter churning process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a butter churning process to produce sweet cream butter product to specifications.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a dairy product production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of butter churning equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the butter churning equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the butter churning process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the butter churning process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify requirements for the butter churning process
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust butter churning process equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification
- monitor process, including:
 - agitation speeds
 - flow rates
 - time/temperature
 - ingredient addition systems
 - equipment performance
- monitor supply and flow of materials to and from the butter churning process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take butter churning process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- clean equipment according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- carry out product/batch changeovers according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for

REQUIRED SKILLS AND KNOWLEDGE

clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the butter churning process, including product preservation and the types of additives/ingredients used in the process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the butter churning process and the effect of product output on downstream processes
- quality characteristics to be achieved by the butter churning process
- contamination/food safety risks associated with the process and related control measures
- the effect of raw material characteristics on the butter churning process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the butter churning process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- cleaning and sanitation procedures where relevant
- routine maintenance procedures where relevant
- product/batch changeover procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for churning butter • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules and batch/recipe instructions • information on equipment capacity and operating parameters • production schedule and batch instructions • butter churning process and related equipment and services • specifications, control points and processing parameters • materials required for the butter churning process • sampling schedules and test procedures and equipment as required • routine preventative maintenance schedule as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Butter churning equipment	Butter churning equipment may include: <ul style="list-style-type: none"> • butter churn • augers • separator • salter • vacuum
Materials	Materials used in butter churning may include: <ul style="list-style-type: none"> • pasteurised cream • salt By-products may include: <ul style="list-style-type: none"> • buttermilk • wash water

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Dairy processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFDP2002A Operate a butter oil process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit of competency covers the skills and knowledge required to set up, operate, monitor and shut down the components of a butter oil process. This process is also known as an anhydrous milk fat (AMF) process. This process is used for the preparation of butter oil from either cream or melted butter.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a dairy product production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of butter oil equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>Prerequisites for this unit are as follows:</p> <p>For a direct from cream process:</p> <ul style="list-style-type: none"> • FDFOP2043A Operate an homogenisation process <p>For a butter process:</p> <ul style="list-style-type: none"> • FDFDP2001A Operate a butter churning process.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFDP2001A	Operate a butter churning process OR
	FDFOP2043A	Operate an homogenisation process

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the butter oil equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Monitor the butter oil process operation	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Each stage of the process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with environmental standards 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the butter oil process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, such as confirming that characteristics of in-feed (cream or butter) meet quality requirements
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification:
 - for the phase inversion stage, this typically includes monitoring colour
 - for the oil concentration stage, this typically includes monitoring oil transparency:
 - in a direct from cream process, it may involve checking homogeniser and centrifuge pressures, centrifuge operation and desludging
 - for a butter process, the centrifugal separator pressures, and desludging and heat exchanger temperatures are also monitored
 - for the neutralisation stage, this typically includes monitoring water flow and temperatures, ph and caustic concentration
 - for the polishing stage, this typically includes monitoring water temperatures and product appearance (e.g. clarity)
 - for the dehydration stage, this typically includes monitoring operation of the centrifuge to flash off remaining moisture in oil
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards

REQUIRED SKILLS AND KNOWLEDGE

- use process control systems according to enterprise procedures
- demonstrate batch/product changeovers according to enterprise procedures (may not apply to some continuous operations)
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each stage in the process, including an understanding of the stages, process flow and phases produced
- basic operating principles of equipment, including the principles of centrifuges and principles of evaporation, main equipment components, status and purpose of guards, equipment operating capacities and applications and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the effect of outputs on downstream processes
- quality characteristics (fat content) to be achieved by the process
- quality requirements of in-feed materials (cream or butter) and the effect of variation in material quality on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required, such as how earlier stages in the process could contribute to cloudy product
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance

REQUIRED SKILLS AND KNOWLEDGE

information

- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- product/process changeover procedures and responsibilities where relevant
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on equipment used for butter oil process
- start, operate, monitor and adjust process to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down process
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- butter oil and related equipment and services
- cream or butter to be processed
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry include:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Products	<p>Products produced using this process include:</p> <ul style="list-style-type: none"> anhydrous milk fat (AMF) anhydrous butteroil butteroil <p>Phase inversion produces butter milk which is typically evaporated and dried (this unit does not cover this activity)</p>
Equipment	<p>When producing butteroil from cream, typical equipment used for phase inversion includes:</p> <ul style="list-style-type: none"> heat exchangers centrifugal separators homogenisers

RANGE STATEMENT	
	<p>Phase inversion when using butter requires:</p> <ul style="list-style-type: none"> • a butter maker/churn <p>Post-phase inversion equipment may include:</p> <ul style="list-style-type: none"> • separators • dehydrators (vacuum vessel) • holding and balance tanks • heat exchangers
Production stages	<p>Typical production stages include:</p> <ul style="list-style-type: none"> • concentration • phase inversion (using an homogeniser when working direct from cream and a melting and holding stage if using butter) • final concentration • neutralisation • polishing • dehydration <p>Fractionation and decholesterolisation may also be carried out</p>
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Dairy processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFDP2003A Operate a curd production and cutting process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a curd production and cutting process in cheesemaking.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a dairy production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a curd production and cutting process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the curd production and cutting process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the curd production and cutting process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that specifications are met</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental standards</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the curd production and cutting process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify curd production and cutting process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust curd production and cutting process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - speeds
 - flow rates
 - time/temperature
 - equipment performance
- monitor supply and flow of materials to and from the curd production and cutting process
- take corrective action in response to out-of-specification results
- conduct product/batch changeover
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take curd production and cutting process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare curd production and cutting equipment for cleaning
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for

REQUIRED SKILLS AND KNOWLEDGE

clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the curd production and cutting process, including the methods used to coagulate milk for cheese making
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the curd production and cutting process and the effect of product output on downstream processes
- stages and changes that occur during curd production, including physical and chemical changes that occur during curd production and cutting
- quality characteristics required for curd production and cutting
- factors that affect curd firmness
- contamination/food safety risks associated with the process and related control measures
- the effect of raw material characteristics on curd production and cutting
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the curd production and cutting process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the curd production and cutting process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the curd production and cutting process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on equipment used for curd production and cutting • start, operate, monitor and adjust process to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules and batch/recipe instructions • information on equipment capacity and operating parameters • production schedule and recipe/batch instructions • curd production and cutting process and related equipment and services • specifications, control points and processing parameters • materials required for a curd production and cutting process • sampling schedules and test procedures and equipment as required • routine preventative maintenance schedule as

EVIDENCE GUIDE	
	<p>required</p> <ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes</p> <ul style="list-style-type: none"> the Food Standards Code including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Curd production and cutting equipment	<p>Curd production and cutting equipment will depend on:</p> <ul style="list-style-type: none"> the type of cheese products and may include vats
Materials	<p>Materials used in curd production may include:</p> <ul style="list-style-type: none"> milk and coagulants
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Services	<p>Services are appropriate to the process to be operated. Typical examples include:</p> <ul style="list-style-type: none"> power

RANGE STATEMENT

	<ul style="list-style-type: none"> • steam • water • vacuum • compressed and instrumentation air
--	--

Unit Sector(s)

Unit sector	Dairy processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFDP2004A Operate a cooling and hardening process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a process to cool and harden dairy products to specification.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a dairy products production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of equipment and processes used to cool and harden dairy products.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the cooling/hardening process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the cooling/hardening process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the cooling/hardening process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify cooling/hardening processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust cooling/hardening process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time/temperature
 - flow rates
 - recording devices/gauges
 - pressure
 - coolant circulation
 - equipment performance
- monitor supply and flow of materials to and from the cooling/hardening process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take cooling/hardening process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare cooling/hardening equipment for cleaning
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- conduct product/batch changeover according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as

REQUIRED SKILLS AND KNOWLEDGE

specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the cooling/hardening process, including the principles of heat transfer and the difference between latent heat energy transfer and sensible heat energy transfer
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the cooling/hardening process and the effect of product output on downstream processes
- stages and changes which occur during cooling/hardening
- quality characteristics to be achieved by cooling/hardening process
- effect of in-feed characteristics on cooling/hardening process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the cooling/hardening process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- contamination/food safety risks associated with the process and related control measures
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the cooling/hardening process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- cleaning and sanitation procedures where relevant

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• routine maintenance procedures where relevant• product/batch changeover procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for cooling and hardening dairy products • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules and batch/recipe instructions • information on equipment capacity and operating parameters • production schedule and batch instructions • cooling/hardening process and related equipment and services • specifications, control points and processing parameters • materials required for a cooling/hardening process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Cooling/hardening equipment	<p>Cooling/hardening equipment may include:</p> <ul style="list-style-type: none"> • hardening tunnel • plate hardening machine • jacket holding tank • refrigeration • cooling towers
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems

RANGE STATEMENT**Services**

Services are appropriate to the process to be operated. Typical examples include:

- power
- steam
- water
- vacuum
- compressed and instrumentation air

Unit Sector(s)**Unit sector**

Dairy processing

Competency field**Competency field****Co-requisite units****Co-requisite units**

FDFDP2005A Operate a cheese pressing and moulding process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a pressing and moulding process to produce cheese to specifications.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a cheese production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a pressing and moulding equipment and processes</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the pressing and moulding equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the pressing and moulding process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the pressing and moulding process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify pressing and moulding processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for pressing and moulding processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust pressing and moulding process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - equipment speeds
 - flow rates
 - time/temperature
 - equipment performance
- monitor supply and flow of materials to and from the pressing and moulding process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take pressing and moulding process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct product/batch changeovers according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the pressing and moulding process
- basic operating principles of equipment, such as main equipment components, equipment status and purpose of guards, operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the pressing and moulding process and the effect of product output on downstream processes
- quality characteristics to be achieved by the pressing and moulding process
- effect of raw material characteristics on pressing and moulding process performance
- contamination/food safety risks associated with the process and related control measures
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the pressing and moulding process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- product/batch changeover procedures where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for pressing and moulding cheese • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules and batch/recipe instructions • information on equipment capacity and operating parameters • production schedules and batch instructions • pressing and moulding process and related equipment and services • specifications, control points and processing parameters • materials required for a pressing and moulding process • sampling schedules and test procedures and equipment as required • routine preventative maintenance schedule as

EVIDENCE GUIDE	
	<p>required</p> <ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Cheese pressing and moulding equipment	<p>Cheese pressing and moulding equipment may include:</p> <ul style="list-style-type: none"> • block forming towers • trolley table • tunnel press • pneumatic press • hydraulic press • screw press • moulds
Materials	<p>Materials used in cheese pressing and moulding may include:</p> <ul style="list-style-type: none"> • curd • salt

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Dairy processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFDP2006A Operate a fermentation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a fermentation process typically used in the production of dairy products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a dairy production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used for the fermentation of dairy products.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the fermentation equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Monitor the fermentation process operation	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the fermentation process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust fermentation equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time/temperature
 - flow rates
 - fermenter speeds
 - equipment condition and performance
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- demonstrate batch/product changeovers according to enterprise procedures (may not apply to some continuous operations)
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the fermentation process, including the stages and reactions that occur during fermentation
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of this process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the fermentation process
- types of starters used and their role in the fermentation process
- quality requirements of materials and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the fermentation process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- product/process changeover procedures and responsibilities where relevant
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for fermentation of dairy products • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedules and batch instructions • specifications, control points and processing parameters • fermentation and related equipment and services • materials to be fermented • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry include: <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Fermentation equipment	Fermentation equipment may include: <ul style="list-style-type: none"> water baths cabinets tunnels multipurpose tanks fermentation tanks
Materials	Materials used in fermentation may include: <ul style="list-style-type: none"> raw materials/pre-processed materials to be fermented starters, such as single strain starters multiple strain cultures mixed strains

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Dairy processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFFS1001A Follow work procedures to maintain food safety

Modification History

Not applicable.

Unit Descriptor

<p>Unit descriptor</p>	<p>This unit of competency covers the skills and knowledge required to maintain food safety when carrying out work tasks. Basic food safety practices include personal hygiene and conduct, food handling, housekeeping and waste disposal related to work tasks and responsibilities where work involves routine manual processes and/or operation of simple automated equipment.</p>
-------------------------------	--

Application of the Unit

<p>Application of the unit</p>	<p>This unit is based on and equivalent to the guideline food safety unit GFSBFSPA Follow basic food safety practices.</p> <p>Note that this unit does not apply to the pharmaceutical industry. Refer to FDFPH1001A Follow work procedures to maintain Good Manufacturing Practice.</p>
---------------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Handle food safely	1.1. Food handling requirements are identified 1.2. Food handling is carried out according to the food safety program 1.3. The workplace is maintained in a clean and tidy order to meet workplace standards 1.4. Work is conducted in accordance with workplace environmental guidelines
2. Identify, control and report food safety hazards	2.1. Work area, materials, equipment and product are routinely monitored to ensure compliance with food safety requirements 2.2. Processes, practices or conditions which are not consistent with the food safety program are identified and corrective action is taken within the level of responsibility
3. Comply with personal hygiene standards	3.1. Personal hygiene meets the requirements of the food safety program 3.2. Health conditions and/or illness are reported as required by the food safety program 3.3. Clothing and footwear worn is appropriate for the food handling task and meets the requirements of the food safety program 3.4. Movement around the workplace complies with the food safety program

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- locate and follow workplace information relating to food safety responsibilities
- monitor own work and implement any controls as required by the food safety program, such as visual inspection and checks
- follow workplace procedures to maintain food safety as required by the food safety program relating to own work
- identify and correct or report situations that do not meet the requirements of the food safety program and/or could result in unsafe food
- handle, clean and store equipment, utensils, packaging materials and similar items according to the requirements of the food safety program as required by work role
- maintain personal hygiene consistent with the food safety program
- take necessary precautions when moving around the workplace and/or from one task to another to maintain food safety
- wear and maintain appropriate clothing/footwear as required by work tasks and consistent with the requirements of the food safety program
- report health conditions and illness as appropriate according to the food safety program
- handle and/or dispose of out-of-specification or contaminated materials, ingredients and product, waste and recyclable material according to food safety program as required by work responsibilities
- maintain the work area in a clean and tidy state
- identify and report signs of pest infestation
- clean and sanitise equipment according to enterprise procedures
- record food safety information according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- food safety requirements related to work responsibilities, including personal hygiene, requirements and procedures to report illness and safe food handling practices for own work, as well as an awareness of the possible consequences of not following these procedures
- common types and sources of contamination that occur in the work area, such as

REQUIRED SKILLS AND KNOWLEDGE

- cross contamination
- control methods and procedures used in the , such as reporting non-compliance and following instructions
- storage and handling requirements for ingredients, materials and product used related to work role
- housekeeping requirements and responsibilities relating to own work, and use and storage of housekeeping/cleaning equipment where required
- purpose and importance of cleaning and sanitation procedures
- suitable standard for materials, equipment and utensils used in the work area
- waste collection, recycling and handling procedures relevant to own work responsibilities
- procedures to follow in the event of pest sighting or discovery of infestation
- clothing and footwear requirements for working in and/or moving between food handling areas
- personal clothing maintenance, laundering and storage requirements
- appropriate bandages and dressings to be used when undertaking food handling
- cleaning procedures where relevant
- recording requirements and responsibilities where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify food safety handling requirements in the workplace • apply and monitor own compliance with food safety standards • maintain required standards of personal hygiene • maintain clean and tidy work area • report non-compliances • apply safe work practices and identify OHS hazards and controls.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • food safety information relating to the workplace, including a food safety program outlining food safety hazards and control methods. It may also include company policies, procedures and codes of practice, such as Good Manufacturing Practice (GMP) • related work instructions and procedures • work tasks and responsibilities • cleaning and sanitation policies and procedures • appropriate clothing and related apparatus • reporting and monitoring systems.
<p>Method of assessment</p>	<p>This unit should be assessed together with core and other units of competency relevant to the work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment <p>Where the company operates a combined quality/food safety system, assessment of this unit should be combined with assessment of:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• FDFOP1009A Follow work procedures to maintain quality.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Food safety program</p>	<p>A food safety program is a written document that specifies how a business will control all food safety hazards that may be reasonably expected to occur in all food handling operations of the food business. The food safety program and related procedures must comply with legal requirements of the food safety standards and must be communicated to all food handlers. Where no food safety program is in place, food safety requirements may be specified in general operating procedures</p>
<p>Food safety information</p>	<p>Food safety information may be provided in:</p> <ul style="list-style-type: none"> • food safety program • standard operating procedures (SOPs) • specifications • log sheets • written or verbal instruction
<p>Food handling</p>	<p>Food handling refers to:</p> <ul style="list-style-type: none"> • food receipt and storage • food preparation, cooking, holding, cooling, chilling and reheating • packaging • disposal
<p>Products/materials handled and stored</p>	<p>Products/materials handled and stored can include:</p> <ul style="list-style-type: none"> • raw materials • ingredients • consumables • part-processed product • finished product • cleaning materials

RANGE STATEMENT	
Breach of food safety procedures	<p>Examples of a breach of food safety procedures could include:</p> <ul style="list-style-type: none"> • failure to check delivery temperatures of potentially hazardous chilled food • failure to place temperature-sensitive food in temperature controlled storage conditions promptly • failure to wash hands when required • use of cloths for unsuitable purposes
Responsibility for monitoring food safety	<p>Responsibility for monitoring food safety, identifying breaches in food safety procedures and taking corrective action relates to own tasks and responsibilities and occurs in the context of the food safety program in the workplace</p>
Food safety hazard	<p>A food safety hazard is a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect</p>
Personal hygiene requirements	<p>Minimum personal hygiene requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in the Food Safety Standard 3.2.2, Division 4:14 and/or state or territory legislation/regulations</p>
Reporting of health conditions and illness requirements	<p>Reporting of health conditions and illness requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in Food Safety Standard 3.2.2, Division 4:13 and/or state or territory legislation/regulations</p>
Appropriate clothing and footwear	<p>Appropriate clothing and footwear depends on work requirements. It should be designed to ensure that the body and clothing itself does not contaminate food or surfaces likely to come into contact with food. Examples of clothing designed to prevent contamination by the body include:</p> <ul style="list-style-type: none"> • purpose designed overalls or uniforms • hair-nets • beard snoods • gloves

RANGE STATEMENT	
	• overshoes

Unit Sector(s)

Unit sector	Food safety
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFFS2001A Implement the food safety program and procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to maintain personal hygiene and conduct food handling, housekeeping and waste disposal related to work tasks and responsibilities where work involves operation of production and/or packaging equipment and processes.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is based on and equivalent to the guideline food safety unit GFSMFSRA Apply and monitor food safety requirements.</p> <p>Note that this unit does not apply to the pharmaceutical industry. Refer to FDFPH2001A Apply Good Manufacturing Practice procedures.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement the food safety program	1.1. Food handling requirements are identified 1.2. Food handling is carried out according to the food safety program 1.3. Food safety hazards are controlled as required by the food safety program 1.4. Where food safety control requirements are not met, the incident is promptly reported and corrective action is taken 1.5. Food safety information is recorded to meet requirements of the food safety program 1.6. The workplace is maintained in a clean and tidy order to meet workplace standards 1.7. Work is conducted in accordance with workplace environmental guidelines
2. Participate in maintaining and improving food safety	2.1. Work area, materials, equipment and product are routinely monitored to ensure compliance with food safety requirements 2.2. Processes, practices or conditions which could result in a food safety breach are identified and reported according to workplace reporting requirements 2.3. Corrective action is taken in accordance with the food safety program 2.4. Food safety issues are raised with designated personnel
3. Comply with personal hygiene standards	3.1. Personal hygiene meets the requirements of the food safety program 3.2. Health conditions and/or illness are reported as required by the food safety program 3.3. Clothing and footwear worn is appropriate for the food handling task and meets the requirements of the food safety program 3.4. Movement around the workplace complies with the food safety program

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- locate and follow workplace information relating to food safety responsibilities
- follow workplace procedures to maintain food safety as required by the food safety program relating to own work
- monitor food safety hazards as required by the food safety program, including methods such as visual inspection, sampling and testing
- record results of monitoring, and maintain records as required by the food safety program
- identify and report situations that do not meet the requirements of the food safety program and/or could result in unsafe food
- take corrective action as required by food safety program within level of responsibility
- handle, clean and store equipment, utensils, packaging materials and similar items according to the requirements of the food safety program as required by work role
- maintain personal hygiene consistent with the food safety program
- take necessary precautions when moving around the workplace and/or from one task to another to maintain food safety
- wear and maintain appropriate clothing/footwear as required by work tasks and consistent with the requirements of the food safety program
- report health conditions and illness as appropriate according to the food safety program
- handle and dispose of out-of-specification or contaminated food, waste and recyclable material according to food safety program as this requirement relates to own work responsibility
- maintain the work area in a clean and tidy state
- identify and report signs of pest infestation
- record food safety information in appropriate format
- clean and sanitise equipment according to enterprise procedures
- collect samples and conduct tests according to the food safety program according to enterprise procedures
- participate in investigating food safety breaches according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- sources of information and expertise on procedures and responsibilities for food safety relating to own work
- basic concepts of HACCP-based food safety, including identification of hazards that are likely to occur, establishing appropriate methods of control and confirming that controls are met
- food safety management arrangements in the workplace, including awareness of food safety legislation, workplace policies and procedures to implement responsibilities, understanding the relationship between the quality system and food safety program, personnel responsible for developing and implementing the food safety program, the role of internal and external auditors as appropriate, procedures followed to investigate contamination events, and performance improvement processes
- awareness of common microbiological, physical and chemical hazards related to the foods handled in the work area, including the types of hazards likely to occur, the conditions under which they occur, possible consequences and control methods to prevent occurrence
- basic understanding of the properties, handling and storage requirements of ingredients, materials and products handled and used
- suitable standard for materials, measuring devices, equipment and utensils used in the work area
- food safety requirements related to work responsibilities, including personal hygiene, requirements and procedures to report illness and safe food handling practices for own work
- methods used to monitor that food safety is under control, including the purpose of sampling and taking measurements, such as temperature and pH, and conducting inspections and tests
- action required in the event of non-compliance (corrective action is typically described in the food safety program and/or related workplace information)
- purpose of keeping records and the recording requirements of the food safety program
- methods used in the workplace to isolate or quarantine food which may be unsafe
- product and ingredient traceability procedures, such as product recall where required by work responsibilities
- clothing and footwear requirements for working in and/or moving between food handling areas
- personal clothing maintenance, laundering and storage requirements
- appropriate bandages and dressings to be used when undertaking food handling
- housekeeping requirements and responsibilities relating to own work, and use and storage of housekeeping/cleaning equipment where relevant
- procedures to follow in the event of pest sighting or discovery of infestation
- purpose and importance of cleaning and sanitation procedures
- waste collection, recycling and handling procedures relevant to own work responsibilities

- cleaning and sanitation procedures where relevant
- impact of rework handling/addition on food safety where relevant
- sampling and test methods where relevant

-

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- identify own responsibilities with regard to food safety
- identify food safety risks in the workplace and the control measures used to manage them
- apply control measures in own work
- monitor compliance with food safety standards
- identify and act on non-compliances and participate in improving safety
- maintain required standards of personal hygiene
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- apply food safety procedures.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- food safety information relating to the workplace, including a food safety program outlining food safety hazards and control methods. It may also include company policies, procedures and codes of practice, such as:
 - Good Manufacturing Practice (GMP)
 - related work instructions and procedures
 - work tasks and responsibilities
 - appropriate clothing and related apparatus
 - reporting and monitoring systems
 - cleaning and sanitation policies and procedures as required
 - sampling and test procedures and related equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with other units of competence relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2013A Apply sampling procedures • FDFOP2063A Apply quality systems and procedures • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

A food safety program

A food safety program is a written document that specifies how a business will control all food safety hazards that may be reasonably expected to occur in all food handling operations of the food business. The food safety program and related procedures must comply with legal requirements of the food safety standards and must be communicated to all food handlers. Where no food safety program is in place, food safety requirements may be specified in general operating procedures

Workplace information

Workplace information may be provided in:

- food safety program
- standard operating procedures (SOPs)
- specifications
- log sheets
- written or verbal instruction

Food handling

Food handling refers to:

- food receipt and storage
- food preparation
- cooking, holding, cooling, chilling and reheating
- packaging, disposal

Products/materials handled and stored

Products/materials handled and stored can include:

- raw materials
- ingredients
- consumables
- part-processed product
- finished product
- cleaning materials

RANGE STATEMENT	
Examples of a breach of food safety procedures	<p>Examples of a breach of food safety procedures could include:</p> <ul style="list-style-type: none"> • failure to check delivery temperatures of potentially hazardous chilled food • failure to place temperature-sensitive food in temperature controlled storage conditions promptly • failure to wash hands when required • use of cloths for unsuitable purposes
Responsibility for monitoring food safety	<p>Responsibility for monitoring food safety, identifying breaches in food safety procedures and taking corrective action relates to own tasks and responsibilities and occurs in the context of the food safety program in the workplace</p>
Monitoring	<p>Monitoring describes the methods used to confirm that a food safety hazard is in control, such as:</p> <ul style="list-style-type: none"> • taking temperatures • collecting samples • conducting visual inspections • conducting other tests as required
Food safety hazard	<p>A food safety hazard is a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect</p>
Hygiene requirements	<p>Minimum personal hygiene requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in the Food Safety Standard 3.2.2, Division 4:14 and/or state or territory legislation/regulations</p>
Reporting of health conditions and illnesses requirements	<p>Reporting of health conditions and illnesses requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in Food Safety Standard 3.2.2, Division 4:13 and/or state or territory legislation/regulations</p>
Appropriate clothing and footwear	<p>Appropriate clothing and footwear depends on work requirements. It should be designed to ensure that the body and clothing itself does not contaminate food or surfaces likely to come into</p>

RANGE STATEMENT

	<p>contact with food. Examples of clothing designed to prevent contamination by the body include:</p> <ul style="list-style-type: none"> • purpose designed overalls or uniforms • hair-nets • beard snoods • gloves • overshoes
--	---

Unit Sector(s)

Unit sector	Food safety
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFFS3001A Monitor the implementation of quality and food safety programs

Modification History

November 2011: minor typographical error corrected.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to provide a leadership role in supporting day-to-day implementation of the food safety/quality programs in a work area. It also involves supporting others to implement the requirements of the food safety/quality procedures.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to those with formal responsibility for others, and to those required to model workplace policies and procedures but who have no formal management role.</p> <p>This unit is based on and equivalent to the guideline food safety unit GFSOFSA Oversee the day-to-day implementation of food safety in the workplace.</p> <p>Note that this unit does not apply to the pharmaceutical industry. Refer to FDFPH3001A Monitor and maintain Good Manufacturing Practice procedures.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS2001A	Implement the food safety program and procedures

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Ensure others in the work area are able to meet quality and food safety requirements	1.1. Hazard control and clothing and equipment appropriate to work requirements are available, functional and correctly fitted 1.2. Information on food safety/quality responsibilities and procedures is current, accessible and communicated to others in the work area 1.3. Information about identified hazards and the outcomes of risk assessment and risk control procedures is accessible and communicated to others in the work area 1.4. Food safety/quality hazards and control measures used in the work area can be identified by those in the work area 1.5. Mentoring and coaching support is available to support individuals/groups to implement quality and safe food handling procedures 1.6. Training needs are identified and addressed within level of responsibility
2. Monitor observance of quality standards and food safety programs in the work area	2.1. Work procedures in the work area are clearly defined, documented and followed 2.2. Deviation from identified procedures is identified, reported and addressed within level of responsibility 2.3. Personal behaviour is consistent with workplace policies and procedures that support food safety and quality 2.4. Food safety and/or quality hazards are identified and reported according to workplace procedures 2.5. Food safety and quality information is recorded to meet workplace reporting requirements 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines
3. Take corrective action in response to quality and food safety non-compliance	3.1. Workplace procedures for responding to quality and food safety non-compliance are promptly implemented 3.2. Hazardous events are investigated to identify cause 3.3. Control measures to prevent recurrence and minimise risks of hazardous events are implemented
4. Maintain and	4.1. Processes or conditions which could result in a

ELEMENT	PERFORMANCE CRITERIA
improve quality and food safety in the work area	<p>breach of food safety procedures or quality specifications are identified, assessed, removed or and/reported within level of responsibility and according to workplace procedure</p> <p>4.2.Risk assessments are conducted and appropriate control measures are identified and implemented in the work area</p> <p>4.3.Recommendations arising from risk assessments are implemented within level of responsibility</p> <p>4.4.Inadequacies in control measures are identified and reported according to company reporting requirements</p> <p>4.5.Matters raised relating to quality/food safety are promptly resolved and/or referred to appropriate personnel</p> <p>4.6.The work group is consulted and advised of quality/food safety matters relevant to work role</p> <p>4.7.Opportunities for improving food safety and quality are identified and raised with relevant personnel</p> <p>4.8.Procedures are developed or revised to support effective control of quality and food safety hazards</p> <p>4.9.Quality/food safety records are reviewed to ensure they are complete and meet the quality system, food safety program and legal requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access, interpret and communicate information about the food safety program, quality requirements and related procedures to others in the work area
- demonstrate two-way communication, including active listening and responding constructively to feedback
- provide access to and maintain current food safety/quality documentation
- model safe food handling and quality practices and procedures to achieve required outcomes, including demonstrating:
 - work procedures that meet the requirements of quality and food safety
 - cleaning and sanitising equipment
 - sampling and testing as appropriate according to quality and food safety requirements
 - maintaining personal hygiene
 - wearing appropriate clothing and footwear as required by the work task
 - following procedures when moving within and between work areas
 - reporting health conditions and illnesses according to workplace procedures
 - handling, cleaning and storing equipment, utensils and packaging materials as appropriate
- identify control points in the work area and demonstrate monitoring techniques used (control points include critical, quality and regulatory control points)
- support others to meet quality standards and follow food safety procedures by ensuring that all personnel in the work area receive the information required and have the necessary skills and equipment to carry out their responsibilities
- identify, report and/or address food safety/quality non-compliance in an appropriate and timely manner within level of responsibility
- determine when and how to make adjustments to maintain output within level of responsibility
- identify, report and/or address food safety/quality training and development needs of others in the work area
- ensure that appropriate and timely action is taken in response to non-compliance
- handle and dispose of out-of-specification or contaminated food, waste and recyclable material according to food safety program as this requirement relates to own work responsibility
- participate in investigations of non-compliance and risk assessment processes
- participate in consultation processes to improve quality and food safety outcomes in the workplace

REQUIRED SKILLS AND KNOWLEDGE

- review practice and procedures to implement recommendations arising from risk assessments and/or improvement proposals within level of responsibility, such as collecting and analysing food safety/quality records, reviewing operating procedures and communicating changes to others in the work area
- ensure that housekeeping standards are maintained and that equipment is in operational order, such as participating in the management of equipment calibration
- monitor the recording of quality and food safety information to confirm that records accurately reflect performance and meet the requirements of the food safety and quality programs
- participate in food recall procedures as required, within level of responsibility
- facilitate consultation processes according to enterprise procedures
- lead investigations of quality and food safety incidents according to enterprise procedures
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- sources of information and expertise on procedures and responsibilities for food safety relevant to the workplace
- principles of a HACCP-based approach to managing food safety, including identifying hazards that are likely to occur, establishing appropriate methods of control and confirming that controls are met
- basic concepts of quality assurance including hazards, risk assessment and control methods
- company programs and systems in place to manage and support quality and food safety in the workplace, which may involve separate or integrated programs, including systems for maintaining and updating documents, such as operating procedures and specifications
- clothing and footwear requirements for working in and/or moving between food handling areas, including personal clothing maintenance, laundering and storage requirements
- appropriate bandages and dressings to be used when undertaking food handling
- housekeeping requirements and responsibilities relating to own work, where relevant this includes use and storage of housekeeping/cleaning equipment
- procedures to follow in the event of pest sighting or discovery of infestation
- purpose and importance of cleaning and sanitation procedures
- legal obligations for food safety and quality, including an awareness of government legislation and customer requirements
- food safety and quality responsibilities and requirements relating to the work area
- awareness of common micro biological, physical and chemical hazards related to the foods handled in the work area, including the types of hazards likely to occur, the conditions under which they occur, possible consequences and control methods

REQUIRED SKILLS AND KNOWLEDGE

- to prevent occurrence
- suitable standard for materials, measuring devices, equipment and utensils used in the work area
- properties of food and ingredients used that affect food safety, including an understanding of related storage, processing and handling requirements
- current technical and process knowledge required to participate in investigations of food safety/quality hazards, risks and incidents within level of responsibility, including an understanding of common micro biological, physical and chemical hazards, related control methods and the way changes in equipment and/or processing methods can affect food safety and quality outcomes
- procedures for identifying unsafe and/or non-conforming product, including control points and evidence of out-of-specification product or materials
- sampling procedures, test methods and inspections
- options for responding to non-compliance, including legal responsibility, risk management and cost/implications of different responses and level of responsibility for decision making
- methods used in the workplace to isolate or quarantine food which may be unsafe
- waste collection, recycling, handling and disposal, including handling/disposal requirements for different types of waste, such as hazardous waste where relevant
- traceability and recall procedures within level of responsibility
- documentation system and procedures, including record keeping to meet both company and legal requirements, procedures for developing and/or reviewing workplace procedures, and document control systems used in the workplace
- auditing arrangements, roles and responsibilities as they relate to own work responsibilities, such as internal and external audit processes
- appropriate communication skills and techniques to convey information on quality and food safety requirements to others in the workplace
- cleaning and sanitation procedures where relevant
- impact of rework handling/addition on food safety where relevant
- sampling and test methods where relevant
- facilitation and consultation techniques where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • describe quality and food safety program, risks and control measures of the work area • confirm that control measures are in place and that personnel in the work area are equipped and informed to implement programs • identify, address and follow up on non-compliances • identify causes of non compliances • conduct risk assessments and recommend responsive action • provide support to others to implement the programs • complete and maintain documentation.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • food safety program for the work area which identifies critical control points, control measures and corrective action • quality policy, system and procedures • work area or system in which quality and food safety practices and procedures are to be monitored • personal protective clothing and equipment as required • review/audit arrangements • reporting and monitoring systems.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competence relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFPPL3001A Participate in improvement processes • FDFPPL3004A Lead work teams and groups • BSBRES401A Analyse and present research

EVIDENCE GUIDE	
	information.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Work responsibilities	Work responsibilities may include formal or informal responsibility for modelling appropriate quality/food safety policies and procedures and providing a support role to others in the work area
Food safety program	A food safety program is a written document that specifies how a business will control all food safety hazards that may be reasonably expected to occur in all food handling operations of the food business. The food safety program and related procedures must comply with legal requirements of the food safety standards and must be communicated to all food handlers. Where no food safety program is in place, food safety requirements may be specified in general operating procedures
Quality systems	Quality systems may be externally accredited, such as an ISO system, or internally designed and managed
Workplace information	<p>Workplace information may be provided in:</p> <ul style="list-style-type: none"> • food safety and quality policies and programs • standard operating procedures (SOPs) • specifications • log sheets • written or verbal instruction incorporating food safety and quality requirements
Incidents	<p>A food safety incident is:</p> <ul style="list-style-type: none"> • a situation where the safe limits or parameters identified by the food safety program are not met <p>A quality incident is:</p> <ul style="list-style-type: none"> • a situation where the quality limits or parameters identified in specifications or

RANGE STATEMENT	
	processing instructions are not met
Monitoring	<p>Monitoring describes the methods used to confirm that a food safety or quality hazard is in control, such as:</p> <ul style="list-style-type: none"> • taking temperatures • collecting samples • conducting visual inspections • additional testing as required
Responsibility for identifying breaches of food safety procedures	Responsibility for identifying breaches of food safety procedures and taking corrective action occurs in the context of the food safety program and within scope of responsibility
Responsibility for identifying non-compliance against quality standards	Responsibility for identifying non-compliance against quality standards occurs within the context of defined standards or specifications and relates to work area
Personal hygiene requirements	Minimum personal hygiene requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in the Food Safety Standard 3.2.2, Division 4:14 and/or state or territory legislation/regulations
Reporting of health conditions and illnesses	Reporting of health conditions and illnesses requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in Food Safety Standard 3.2.2, Division 4:13 and/or state or territory legislation/regulations
Operator responsibilities	<p>The operator at this level may not have direct responsibility for overseeing the training/development of team members. At a minimum they must be able to identify development needs of others in the work area and refer this information to the relevant personnel.</p> <p>The operator at this level may not have responsibility for independently assessing risks and determining the effectiveness of control measures. However, they would be expected to observe day-to-day effectiveness and participate in assessment and review processes. Responsibilities</p>

RANGE STATEMENT	
	at this level may include facilitating consultation processes within level of responsibility
Record keeping	Record keeping complies with customer, legal and food safety program requirements

Unit Sector(s)

Unit sector	Food safety
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFFS4001A Supervise and maintain a food safety plan

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency covers the skills and knowledge required to maintain and implement a hazard analysis critical control point (HACCP)-based food safety plan. It includes the ability to monitor the implementation of a food safety plan, to revise, verify and validate the system, and to respond to audit findings for the system.

Application of the Unit

Food safety is critical to public health and safety and the successful operation of food processing businesses. This unit is suitable for managers, supervisors and team leaders in food processing establishments who are responsible for maintaining the food safety plan or system in a designated work area.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Review the existing food safety plan	1.1 Data and results from HACCP records are collected to verify the food safety system 1.2 Major and minor non-conformances to the HACCP plan are identified 1.3 Critical control points are monitored to confirm performance 1.4 Problem areas are analysed using appropriate quality improvement tools and techniques 1.5 Corrective actions and strategies are suggested to prevent recurrence of the problem 1.6 Required amendments to the HACCP plan are documented 1.7 Recommendations are reported and presented to appropriate personnel
2. Communicate the requirements of the food safety plan	2.1 Food safety principles, food safety procedures and requirements, including regulatory requirements, are explained to the team 2.2 Commitment to, and responsibility for, food safety is developed through work team communication 2.3 Procedures to support the food safety plan are defined, documented and put in place 2.4 Training and mentoring is provided to the team to assist implementation
3. Monitor the implementation of the food safety plan	3.1 Team implementation of the food safety plan is monitored 3.2 Personal behaviour, including hygiene, housekeeping and use of clothing and equipment, is monitored and corrected, where necessary 3.3 Records and reports are completed accurately and on schedule 3.4 Prompt action is taken to correct non-conformance according to enterprise and regulatory requirements 3.5 Causes of non-conformance are identified and analysed 3.6 Control measures are implemented to prevent future non-conformance 3.7 Non-conformance is reported according to enterprise requirements
4. Maintain the food safety plan	4.1 Feedback is sought from all personnel to identify potential hazards, corrective actions and controls 4.2 Processes or conditions which could result in breaches of food safety procedures are identified and preventive or corrective action is taken 4.3 Corrective action and control procedures are updated to improve food safety

ELEMENT	PERFORMANCE CRITERIA
	4.4 Documentation is completed according to enterprise and regulatory requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- collect, monitor and interpret data to identify trends and non-conformance
- communicate with a range of stakeholders, including customers, to convey food safety requirements and programs
- demonstrate current technical and process knowledge for the control of hazards and improvement of the food safety system
- demonstrate enterprise monitoring procedures, including sampling, testing and required records and documents, and explain their purpose
- determine and take corrective action where food safety is potentially compromised
- communicate food safety requirements to the team
- facilitate food safety risk assessment procedures
- apply HACCP principles in leading the process for developing a food safety plan
- communicate the regulatory requirements that apply to the enterprise's food safety plan
- develop enterprise standard operating procedures (SOPs) and communicate their role in the food safety system
- review operations and practices for food safety improvement
- lead personnel/team in investigation of food safety incidents and potential incidents
- maintain currency of knowledge through independent research or professional development
- monitor records and documentation for accuracy and conformance
- respond to food safety incidents and implement food recall procedures, as required
- review communication systems (spoken and written) to minimise the potential for misreporting and misunderstanding of food safety requirements, procedures and plans
- take action to improve own work practice as a result of self-evaluation, feedback from others or in response to changed work practices or technology
- use a range of communication and team building strategies to gain team commitment to food safety
- use detailed product knowledge, including product characteristics and the requirements for safe preparation, processing, storage, handling and display, to monitor food safety
- utilise problem-solving strategies required in investigating non-conformance and reviewing the food safety system
- model safe food handling and quality practices and procedures to demonstrate required work practices and provide leadership, including demonstrating:
 - work procedures that meet the requirements of quality and food safety
 - cleaning and sanitising equipment
 - sampling and testing, as appropriate, according to quality and food safety requirements
 - maintaining personal hygiene
 - wearing appropriate clothing and footwear as required by the work task
 - following procedures when moving within and between work areas

- reporting health conditions and illnesses according to workplace procedures
- handling, cleaning and storing equipment, utensils and packaging materials, as appropriate.

Required knowledge includes:

Knowledge of:

- current technical and process knowledge required to participate in investigations of food safety/quality hazards, risks and incidents
- common microbiological, physical and chemical hazards to food safety, and related control methods
- the way changes in equipment and/or processing methods can affect food safety hazards and level of risk
- the objectives of a HACCP-based food safety system
- the steps in the development of a HACCP-based food safety system
- the steps in the systematic introduction of a HACCP-based food safety system
- enterprise recall and traceability procedures
- purpose of the HACCP development and review process
- the document controls associated with a procedure change
- the purpose of SOPs and work instructions
- the process of auditing and verifying a HACCP-based food safety system.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to maintain and implement a HACCP-based food safety plan.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include the following:</p> <ul style="list-style-type: none"> • review a food safety plan for a food processing operation • communicate the requirements of a food safety plan to workers • demonstrate safe food handling work practices • complete records and reports related to the implementation of food safety • respond to non-compliances and take corrective action.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers’ advice and operating procedures • a HACCP-based food safety plan for the food processing enterprise • methods and related software systems, as required, for collecting data, analysing data and compiling into a report.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • a report on the review of a HACCP-based food safety system • workplace evidence and third-party verification of participation in the maintenance and implementation of a HACCP-based food safety system

	<ul style="list-style-type: none">• observation of candidate demonstrating work practices and workplace standards to maintain food safety• case studies• field reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Food safety program</p>	<p>A food safety program is a written document that specifies ‘...the systematic identification of hazard points, in the production, processing and sale of food and the implementation of risk avoidance, risk minimisation and risk management strategies in respect of these identified hazards.’</p> <p>(National Food Authority 1994, p17).</p> <p>The food safety program and related procedures must comply with legal requirements of the Food Safety Standards and must be communicated to all food handlers. Where no food safety program is in place, food safety requirements may be specified in general operating procedures</p>
<p>Control points</p>	<p>Control points include:</p> <ul style="list-style-type: none"> critical, quality and regulatory control points
<p>Workplace information</p>	<p>Workplace information may be provided in:</p> <ul style="list-style-type: none"> food safety and quality policies and programs standard operating procedures (SOPs) specifications log sheets written or verbal instruction incorporating food safety and quality requirements
<p>Incidents</p>	<p>A food safety incident:</p> <ul style="list-style-type: none"> is a situation where the safe limits or parameters identified by the food safety program are not met <p>A quality incident:</p> <ul style="list-style-type: none"> is a situation where the quality limits or parameters identified in specifications or processing instructions are not met
<p>Monitoring</p>	<p>Monitoring describes the methods used to confirm that a food safety or quality hazard is in control. Examples of monitoring procedures include:</p> <ul style="list-style-type: none"> taking temperatures collecting samples conducting visual inspections testing, as required

<p>Responsibility for identifying breaches of food safety procedures</p>	<p>Responsibility for identifying breaches of food safety procedures and taking corrective action:</p> <ul style="list-style-type: none"> occurs in the context of the food safety program and within scope of responsibility
<p>Responsibility for identifying non-compliance against quality standards</p>	<p>Responsibility for identifying non-compliance against quality standards:</p> <ul style="list-style-type: none"> occurs within the context of defined standards or specifications and relates to work area
<p>Personal hygiene requirements</p>	<p>Minimum personal hygiene requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in the Food Safety Standard 3.2.2, Division 4:14 and/or state/territory legislation/regulations</p>
<p>Reporting of health conditions and illnesses</p>	<p>Reporting of health conditions and illnesses requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in Food Safety Standard 3.2.2, Division 4:13 and/or state/territory legislation/regulations</p>
<p>Operator responsibilities</p>	<p>The operator at this level may have direct responsibility for overseeing the training/development of team members.</p> <p>The operator at this level may have some responsibility for independently assessing risks and determining the effectiveness of control measures. They would be expected to observe day-to-day effectiveness of the food safety plan and participate in assessment and review processes. Responsibilities at this level may include facilitating consultation processes</p>
<p>Record keeping</p>	<p>Record keeping complies with customer, legal and food safety program requirements</p>
<p>Verification of a food safety system</p>	<p>Verification refers to methods and procedures used to carry out monitoring, including:</p> <ul style="list-style-type: none"> sampling and testing to provide evidence that the specifications set by food safety legislation and enterprise requirements continue to be met

Unit Sector(s)

Food safety.

FDFFS4002A Supervise and verify supporting programs for food safety

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency involves the skills and knowledge required to control hazards that are common across processes in a hazard analysis critical control point (HACCP)-based food safety plan by supervising and verifying support programs. It includes the ability to identify food safety hazards and the need for support programs, supervise the implementation of support programs, and verify that support programs are being complied with.

Application of the Unit

Food safety is critical to public health and safety and the successful operation of food processing businesses. This unit is suitable for managers, supervisors and team leaders in food processing establishments who are responsible for maintaining the food safety plan, including support programs, in a designated work area.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Establish the role of food safety support programs in the food safety plan</p>	<p>1.1 A full description of the product is drawn up 1.2 The intended use and client group for the product is identified 1.3 All steps in the operation are included from primary production, processing, manufacture and distribution to the consumer 1.4 Hazards are identified that can reasonably be expected to occur at each step 1.5 Hazard areas that are common to multiple steps in the operation are identified 1.6 The need for support programs to control identified hazard areas is defined</p>
<p>2. Support programs are developed or sourced and procedures developed</p>	<p>2.1 The scope of the health and hygiene program is defined 2.2 Microbiological, physical and chemical hazards associated with supplied unprocessed foods and packaging materials are identified and risk controls and work procedures developed 2.3 Microbiological, physical and chemical hazards associated with staff handling unpackaged food are identified and risk controls and work procedures developed 2.4 Microbiological and physical hazards arising from pest infestations are identified and risk controls and work procedures developed 2.5 Microbiological, physical and chemical hazards associated with using the premises and the equipment in them are identified and risk controls and work procedures developed 2.6 Chemical hazards associated with the use of cleaning chemicals are identified and risk controls and work procedures developed</p>
<p>3. Document and communicate the requirements of support programs as part of the food safety plan</p>	<p>3.1 Work performance is defined and critical limits established, where appropriate, for support programs 3.2 Food safety support program requirements, including regulatory requirements, are explained to the team 3.3 Team commitment to, and responsibility for, food safety support programs is developed 3.4 Induction, training and mentoring is provided to the team to assist implementation of food safety support programs 3.5 Support program requirements and procedures are communicated to management and staff through documented procedures, directions and signage</p>
<p>4. Monitor the implementation of support programs within the food safety</p>	<p>4.1 Personal behaviour, including hygiene, housekeeping and use of clothing and equipment, is monitored and corrected, where necessary</p>

ELEMENT	PERFORMANCE CRITERIA
plan	4.2 Critical control points are monitored to confirm performance 4.3 Records are checked for completion and accuracy 4.4 Problem areas are analysed using appropriate quality improvement tools and techniques 4.5 Processes or conditions which could result in breaches of food safety procedures are identified and preventive or corrective action is taken
5. Verify compliance with support programs in a food safety plan and address non-compliances	5.1 Compliance of the food processing operation for support programs is verified by workplace observation and analysis of records, supported by product testing, if required 5.2 Causes of non-conformance are identified and analysed 5.3 Non-conformance is reported according to enterprise requirements 5.4 Corrective action and control procedures are updated to improve food safety 5.5 Required amendments to the HACCP plan are documented

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- collect, monitor and interpret data to identify trends and non-conformance
- communicate with a range of stakeholders, including customers, to convey food safety requirements and programs
- demonstrate current technical and process knowledge for the control of hazards and improvement of the food safety system
- demonstrate enterprise monitoring procedures (including sampling, testing and required records and documents) and explain their purpose
- determine and take corrective action where food safety is potentially compromised
- communicate food safety and support program requirements to the team
- lead the food safety risk assessment process
- apply HACCP principles to the process of developing a food safety plan
- communicate the regulatory requirements that apply to the enterprise's food safety plan to the work team
- integrate support programs into the enterprise's food safety plan
- review operations and practices for food safety improvement
- develop enterprise standard operating procedures (SOPs) and communicate their role in the food safety system
- lead personnel/team in investigation of food safety incidents and potential incidents
- maintain currency of knowledge through independent research or professional development
- monitor records and documentation for accuracy and conformance
- respond to food safety incidents and implement food recall procedures, as required
- review communication systems (spoken and written) to minimise the potential for misreporting and misunderstanding of food safety requirements, procedures and plans
- take action to improve own work practice as a result of self-evaluation, feedback from others or in response to changed work practices or technology
- use a range of communication and team building strategies to gain team commitment to food safety
- implement and monitor procedures from approved supplier, staff health and hygiene, pest control, cleaning and sanitation and chemical use programs
- utilise problem-solving strategies required in investigating non-conformance and reviewing the food safety system, including support programs
- model safe food handling and quality practices and procedures to demonstrate required work practices and provide leadership, including demonstrating:
 - work procedures that meet the requirements of quality and food safety
 - cleaning and sanitising equipment
 - sampling and testing as appropriate according to quality and food safety requirements
 - maintaining personal hygiene

- wearing appropriate clothing and footwear as required by the work task
- following procedure when moving within and between work areas
- reporting health conditions and illnesses according to workplace procedures
- handling, cleaning and storing equipment, utensils and packaging materials, as appropriate.

Required knowledge includes:

Knowledge of:

- current technical and process knowledge required to participate in investigations of food safety/quality hazards, risks and incidents
- common microbiological, physical and chemical hazards to food safety, and related control methods
- the way changes in equipment and/or processing methods can affect food safety hazards and level of risk
- regulatory requirements relating to approved supplier, staff health and hygiene, pest control, cleaning and sanitation and chemical use programs
- objectives of a HACCP-based food safety system
- steps in the development of a HACCP-based food safety system
- steps in the systematic introduction of a HACCP-based food safety system
- enterprise recall and traceability procedures
- purpose of the HACCP development and review process
- purpose, scope and development of procedures for approved supplier support programs
- purpose, scope and development of procedures for staff health and hygiene support programs
- purpose, scope and development of procedures for pest control support programs
- purpose, scope and development of procedures for cleaning and sanitation support programs
- purpose, scope and development of procedures for chemical use and storage support programs
- document controls associated with a procedure change
- purpose of SOPs and work instructions
- process of auditing and verifying support programs in a HACCP-based food safety system
- occupational health and safety (OHS), regulatory and workplace requirements.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to maintain and implement a HACCP-based food safety plan.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include the following:</p> <ul style="list-style-type: none"> • implement procedures for food safety support programs • communicate the requirements of food safety support programs to workers • demonstrate and provide leadership in safe food handling and hygienic work practices • monitor compliance with food safety support program requirements • complete records and reports related to the implementation of food safety support programs • respond to non-compliances in support programs and take corrective action.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures • a HACCP-based food safety plan for the food processing enterprise • methods and related software systems, as required, for collecting data, analysing data and compiling into a report.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • a report on the review of support programs for a HACCP-based food safety system

	<ul style="list-style-type: none"> • workplace evidence and third-party verification of participation in the maintenance and implementation of support programs for a HACCP-based food safety system • observation of candidate demonstrating work practices and workplace standards to maintain food safety • case studies • field reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Food safety program</p>	<p>A food safety program is a written document that specifies ‘...the systematic identification of hazard points, in the production, processing and sale of food and the implementation of risk avoidance, risk minimisation and risk management strategies in respect of these identified hazards.’</p> <p>(National Food Authority 1994, p17).</p> <p>The food safety program and related procedures must comply with legal requirements of the Food Safety Standards and must be communicated to all food handlers. Where no food safety program is in place, food safety requirements may be specified in general operating procedures</p>
<p>Control Points</p>	<p>Control points include:</p> <ul style="list-style-type: none"> • critical, quality and regulatory control points
<p>Food safety support programs</p>	<p>These programs are designed to control hazards that are common across food handling steps and include:</p> <ul style="list-style-type: none"> • approved supplier • staff health and hygiene • pest control • cleaning and sanitation • storage and use of chemicals
<p>Workplace information</p>	<p>Workplace information may be provided in:</p> <ul style="list-style-type: none"> • food safety and quality policies and programs • SOPs • Specifications • log sheets • written or verbal instruction incorporating food safety and quality requirements
<p>Incidents</p>	<p>A food safety incident:</p> <ul style="list-style-type: none"> • is a situation where the safe limits or parameters identified by the food safety program are not met <p>A quality incident:</p> <ul style="list-style-type: none"> • is a situation where the quality limits or parameters identified in specifications or processing instructions are not met

<p>Monitoring</p>	<p>Monitoring describes the methods used to confirm that a food safety or quality hazard is in control. Examples of monitoring procedures include:</p> <ul style="list-style-type: none"> • taking temperatures • collecting samples • conducting visual inspections • testing, as required
<p>Responsibility for identifying breaches of food safety procedures</p>	<p>Responsibility for identifying breaches of food safety procedures and taking corrective action:</p> <ul style="list-style-type: none"> • occurs in the context of the food safety program and within scope of responsibility
<p>Responsibility for identifying non-compliance against quality standards</p>	<p>Responsibility for identifying non-compliance against quality standards:</p> <ul style="list-style-type: none"> • occurs within the context of defined standards or specifications and relates to work area
<p>Personal hygiene requirements</p>	<p>Minimum personal hygiene requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in the Food Safety Standard 3.2.2, Division 4:14 and/or state/territory legislation/regulations</p>
<p>Reporting of health conditions and illnesses</p>	<p>Reporting of health conditions and illnesses requirements are specified by the food safety program. At a minimum this must meet legal requirements as set out in Food Safety Standard 3.2.2, Division 4:13 and/or state/territory legislation/regulations</p>
<p>Operator responsibilities</p>	<p>The operator at this level may have direct responsibility for overseeing the training/development of team members.</p> <p>The operator at this level may have some responsibility for independently assessing risks and determining the effectiveness of control measures. They would be expected to observe day-to-day effectiveness of the food safety plan and participate in assessment and review processes. Responsibilities at this level may include facilitating consultation processes</p>
<p>Record keeping</p>	<p>Record keeping complies with customer, legal and food safety program requirements</p>
<p>Verification</p>	<p>Verification refers to reviewing all aspects of the food safety program and related records to determine compliance with and adequacy of the food safety program. At a minimum, food safety programs must be verified annually</p>

Unit Sector(s)

Food safety.

FDFFS5001A Develop a HACCP-based food safety plan

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop a hazard analysis critical control point (HACCP)-based food safety plan and to oversee its implementation and monitoring. This unit has regulatory coverage under the Australian New Zealand Food Standards Code Standard 3.2.1 Food Safety Programs.

Application of the Unit

This unit is appropriate where the operator takes a lead role in facilitating the development of the food safety program. It requires application of the steps and techniques used to develop and review a HACCP-based food safety plan

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFFS4001A Supervise and maintain a food safety plan

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Describe the product, and scope the food safety plan	1.1 Appropriate product-specific knowledge and expertise is available or obtained 1.2 The segment of the food chain and processes involved are specified 1.3 The scope of the HACCP plan is identified and class of hazards specified 1.4 A full description of the product is drawn up 1.5 The intended use and client group for the product is identified
2. Construct a flow diagram of production and confirm its applicability	2.1 All steps in the operation are included from primary production, processing, manufacture and distribution to the consumer 2.2 Standard symbols and nomenclature are used to describe the processes and steps in the operation as a flow diagram 2.3 The steps preceding and following a new operation are specified 2.4 The flow diagram is validated against the operation at all stages of production
3. Analyse all potential hazards for each step and consider control measures	3.1 Hazards are identified that can reasonably be expected to occur at each step 3.2 A hazard analysis is conducted to identify hazards that can impact on the production of safe food covering 3.3 Control measures are considered for each hazard
4. Determine critical control points and the critical limits for each	4.1 A process of decision making is followed to determine critical control points 4.2 Hazards at each critical control point are checked to ensure a control measure can be put in place 4.3 Where control measures aren't available the product or process is modified to allow a control measure at another stage 4.4 Critical limits are specified for each critical control point that are either measured or sensory
5. Establish a monitoring system for each critical control point	5.1 Appropriate monitoring methods are established for each critical control point 5.2 Monitoring methods are designed to indicate the critical limit has been reached or is trending towards it 5.3 Monitoring frequency ensures that the critical control point is in control 5.4 Adjustments are made on the basis of the monitoring of critical limits to prevent deviation and hazards occurring

ELEMENT	PERFORMANCE CRITERIA
6. Establish and record corrective actions and verification procedures	6.1 Specific corrective actions are designed to deal with deviations in the critical control point as they occur 6.2 Procedures for treating or disposing of product are documented for when critical limits are exceeded 6.3 Verification procedures are developed 6.4 Verification is carried out to ensure the HACCP system is working effectively
7. Establish documentation and record keeping requirements	7.1 All HACCP procedures are documented 7.2 Records are maintained including the collection of continuous monitoring data if required 7.3 Records are accessed to determine that procedures in place are maintaining critical limits at each critical control point 7.4 HACCP procedures are accessed and reviewed as part of continuous improvement 7.5 Food safety systems and documentation are designed to meet the requirements of auditing standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- specify personal roles and responsibilities for the development or review of a food safety program
- develop a full description of a product
- document the intended end use of a product
- document processes and steps to be covered in production
- develop a flow chart for a food processing operation
- establish critical control points for a process
- identify food safety hazards at all stages of production
- apply decision making tools
- establish critical limits for critical control points and methods of monitoring and recording
- establish procedures for implementing preventative action
- develop monitoring plans for person responsible for each critical control point, and the information to be recorded
- communicate corrective action requirements in the event that acceptable limits or requirements of support programs are not met
- develop or review documentation relating to the design and maintenance of the food safety program, including process flow diagrams, hazard analysis charts and tables, support program requirements, data analysis reports, corrective action reports and verification reports
- develop or review documentation to communicate food safety responsibilities, such as standard operating procedures (SOPs), processing parameters and recording devices (e.g. log sheets)
- communicate food safety responsibilities within level of responsibility using techniques and presentation styles appropriate to the audience.

Required knowledge includes:

Knowledge of:

- the purpose and intent of food safety legislation
- purpose and responsibilities for maintaining records as required by legislation and workplace procedures
- roles and responsibilities for development and maintenance of the food safety program, including internal and external auditors, and authorised officers
- HACCP-based principles and their application to food safety, including techniques for identifying hazards, assessing the likelihood of occurrence, determining acceptable methods of control, monitoring and recording requirements for each control point, identifying corrective action if controls are not met, and developing system review

procedures

- procedures for establishing the critical limits and monitoring data or processes
- techniques used to map operations and analyse food safety requirements, such as the preparation of flow charts, hazard analysis charts and tables, and data analysis reports
- raw materials, ingredients and finished product composition and characteristics, and related handling and storage requirements
- food processing methods used in the workplace or work area and their effect on food safety
- sources of technical expertise on food safety requirements
- the role of consultation in the development, implementation and ongoing maintenance of the food safety program
- documentation and recording requirements to support communication and monitoring of the food safety program, including procedures for maintaining and updating relevant documents, such as operating procedures
- main types of food safety hazards/contamination likely to occur given the type of product and processing methods used
- conditions required for bacterial food poisoning to occur, such as aw (water activity), pH, composition, time and temperature, as relevant to food handled
- acceptable control methods for the hazards identified and required corrective action when control requirements are not met
- typical support programs, such as cleaning schedules, pest control, stock rotation, product traceability and personal hygiene, and how they can be used as part of a food safety program
- acceptable control methods for the hazards identified and required corrective action when control requirements are not met
- validation and verification processes and techniques and responsibilities.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to develop a HACCP-based food safety program, and develop procedures for its implementation and monitoring.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>All elements, performance criteria, and required skills and knowledge should be captured in a holistic assessment plan. Critical aspects of assessment must include the following:</p> <ul style="list-style-type: none"> • conduct a hazard analysis • determine the critical control points • establish critical limits • develop a system to monitor control of the critical control points • nominate the corrective action to be taken when monitoring indicates a critical control point is not under control • develop verification procedures to confirm the HACCP system is working effectively • maintain documentation concerning all procedures and records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the candidate has access to:</p> <ul style="list-style-type: none"> • workplace food safety program documentation • organisational policies on food safety and risk management • procedures for developing or modifying specifications and other advice on food safety requirements • a food processing operation with a defined product and consumer • resources and equipment to set and monitor critical limits • procedures for developing or modifying documentation, such as work instructions and procedures, log sheets and other recording requirements • communication systems • training system

	<ul style="list-style-type: none"> • reporting/recording system.
Method of assessment	<p>Assessment methods must satisfy the endorsed Assessment Guidelines of FDF10 Food Processing Industry Training Package. The following assessment methods should be considered to gather sufficient and valid evidence of competency:</p> <ul style="list-style-type: none"> • records-based evidence and supporting statements for developing a HACCP-based food safety plan • questioning to ensure a detailed understanding of the steps and techniques used to develop and review a HACCP-based food safety program. <p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Food safety programs</p>	<p>A food safety program is a written document that specifies ‘...<i>the systematic identification of hazard points, in the production, processing and sale of food and the implementation of risk avoidance, risk minimisation and risk management strategies in respect of these identified hazards.</i>’</p> <p>(National Food Authority 1994, p17).</p> <p>The food safety program must provide for the systematic monitoring of the controls as well as appropriate corrective action if a hazard is found not to be under control. Records must be kept to demonstrate action in relation to, or in compliance with, the food safety program. A food safety program may be developed as a stand-alone program or may be integrated with the quality program in a workplace</p>
<p>Hazard analysis</p>	<p>Hazard analysis may cover</p> <ul style="list-style-type: none"> • the likelihood of occurrence and severity of consequence • the qualitative and/or quantitative evaluation of the presence of hazards • the survival or multiplication of microorganisms of concern • the production or persistence of toxins, chemical residues or physical agents in food
<p>Methods used to control hazards</p>	<p>Methods used to control hazards include both support programs and specific hazard control limits or requirements. Typical examples of support programs include:</p> <ul style="list-style-type: none"> • product recall • cleaning schedules • pest control programs • personal hygiene practices • calibration procedures • related operating procedures
<p>Description of the product</p>	<p>A full description of the product may include:</p>

	<ul style="list-style-type: none"> • relevant safety information, such as composition, physical/ chemical structure, microcidal/ static treatments (e.g. heat-treatment, freezing, brining or smoking) • packaging durability • storage conditions • methods of distribution
Operating principles for a HACCP system	A HACCP system should be operated on a food chain where the Codex General Principles of Food Hygiene have been applied, and the appropriate Codex Codes of Practice and legislation is in place
Food safety hazards	Food safety hazards include: <ul style="list-style-type: none"> • microbiological • chemical • physical
Critical limits	Critical limits may include measured data such as: <ul style="list-style-type: none"> • temperature • time • moisture level • pH • a_w • available chlorine • sensory parameters, such as visual appearance and texture
Validation	Validation refers to: <ul style="list-style-type: none"> • the use of objective evidence in order to prove that materials, processes, procedures or equipment used are capable of delivering the intended result
Verification	Verification refers to: <ul style="list-style-type: none"> • reviewing all aspects of the food safety program and related records to determine compliance with and adequacy of the food safety program. At a minimum, food safety programs must be verified annually
Scope of the HACCP based plans	The scope of the HACCP-based plan depends on workplace requirements and may extend outside the direct area of responsibility of the team participants
Auditing standards	Auditing standards may include any of the recognised standards applying to the food industry, including:

	<ul style="list-style-type: none"> • BRC Global Food Standard • Codex Alimentarius • ISO 22000:2005 Food safety management systems - Requirements for any organization in the food chain
--	---

Unit Sector(s)

Food safety

FDFST4001A Apply food processing technologies

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to apply food processing technologies and to review their effectiveness and efficiency based on an understanding of food science and technology.

Application of the Unit

This unit applies to quality assurance and technical staff who have responsibility for maintaining product safety, quality and the production environment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Carry out fermentation as part of food or beverage production	1.1 Materials and equipment for a fermentation process are prepared 1.2 A fermentation process is applied and monitored 1.3 The fermented product is tested and evaluated
2. Review a fermentation process for a commercial food product	2.1 The critical control points (CCPs) and critical limits for product safety are reviewed 2.2 Operating procedures are reviewed for food safety and quality in fermentation 2.3 The food safety and production plans are reviewed for the fermentation process 2.4 Environmental impacts and associated costs are reviewed for fermentation in commercial food production
3. Carry out concentration and drying as part of food or beverage production	3.1 Materials and equipment for a concentration and drying process are prepared 3.2 A concentration and drying process is applied and monitored 3.3 The concentrated and dried food product is tested and evaluated
4. Review a concentration and drying process for a commercial food product	4.1 The CCPs and critical limits for product safety are reviewed 4.2 Operating procedures are reviewed for food safety and quality in fermentation 4.3 The food safety and production plan is reviewed for the fermentation process 4.4 Environmental impacts and associated costs are reviewed for fermentation in commercial food production
5. Carry out cooking or steaming as part of food or beverage production	5.1 Materials and equipment for a cooking or steaming process are prepared 5.2 A cooking or steaming process is applied and monitored 5.3 The cooked or steamed food product is tested and evaluated
6. Review a cooking or steaming operation for a commercial food product	6.1 The CCPs and critical limits for product safety are reviewed 6.2 Operating procedures are reviewed for food safety and quality in fermentation 6.3 The food safety and production plan is reviewed for the cooking or steaming process 6.4 Environmental impacts and associated costs are reviewed for fermentation in commercial food production

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

Fermentation

- recognise the biochemical principles of fermentation in production
- establish the role of micro-organisms in the fermentation process
- identify materials used in the fermentation process, including raw materials/pre-processed materials and starter cultures
- recognise the equipment used in the production of fermented food products
- apply appropriate quality control processes and procedures to assess fermented food products
- ferment samples of food successfully

Concentration and drying

- recognise the principles of concentration in production, including:
 - the aim of concentration in food processing
 - the need for concentration in food processing
 - heat transfer mechanism
- recognise the principles of drying in food production, including:
 - the aim of drying in food processing
 - the need for drying in food processing
 - heat transfer mechanism
- concentrate samples of food successfully
- dry samples of food successfully
- apply appropriate quality control processes and procedures to assess food products

Cooking or steaming

- sequence ingredient addition to meet recipe specifications
- start, monitor and adjust processing equipment to achieve required outcomes. Typical parameters monitored include:
 - time and temperature
 - agitation settings
 - weights
 - flow rates
 - flow diversion
 - characteristics of the mix such as colour, viscosity, density, and consistency
- take corrective action in response to out-of-specification results.

Required knowledge includes:

Knowledge of:**Fermentation**

- biochemical principles of fermentation, including - lactic acid fermentation and alcohol fermentation.
- the major micro-organism groups used in fermentation, including Lactococcus, Streptococcus, Leuconostoc, Pediococcus, Lactobacillus bacterial species, yeasts and moulds
- the microbial growth phases - Lag phase, Log phase, Stationary phase and Death phase
- materials used in the fermentation process, including raw materials/ pre-processed materials and starter cultures (single strain starters, multiple strain cultures, mixed strains)
- quality control processes and procedures used to assess fermented food products.

Concentration and drying

- the principles of heat transfer in the concentration of food
- the principles of heat transfer in the drying of food
- the various methods of concentration of foods, including evaporation, filtration, reverse osmosis and freeze concentration
- the various methods of dehydrating foods, including cabinet, spray, drying and freeze dehydration
- quality control process and procedures used to assess concentrated and dried food products.

Cooking or steaming

- purpose and basic principles of heat sterilisation and effect on physical, chemical, micro-biological and organoleptic characteristics of the cooked product
- basic operating principles of equipment including safe operating procedures
- quality characteristics and conditioning required of ingredients used and their role in the product. Conditioning may include reconstituting dry ingredients and bringing ingredients to a required temperature
- effect of ingredient quality/condition on the process. This may include variables such as temperature, viscosity/texture, microbial load and acidity quality
- heat treatment requirements for low and/or high acid foods as appropriate to production requirements
- stages and changes which occur during the blending and heat treatment stages
- quality requirements of the cooked product.relationship between time and temperature in the cooking process.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to apply fermentation, concentration and drying or cooking or steaming processes and to review their effectiveness and efficiency based on an understanding of food science and technology.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of : applying methods for fermentation or concentration and drying or cooking or steaming; determining processes and critical limits for processing a food product; documenting physical, biochemical and biological changes to food products and testing criteria; and analysing process controls for a food processing operation, based on product testing.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of at least one of the food processes specified, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures • methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • observation of candidate conducting a range of processes and tests • a report on review of the production system.

Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.
-------------------------------------	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> • Codes of practice • Material Safety Data Sheet • Enterprise specific requirements.
<p>Regulations</p>	<ul style="list-style-type: none"> • Australian and international standards including: • industry guidelines and codes of practice • industry regulations • Australia New Zealand Food Standards Code • ISO Standards • codex alimentarius • State food regulators.
<p>Methods of fermentation</p>	<ul style="list-style-type: none"> • Fermentation processes in industry may include lactic acid fermentation and alcohol fermentation.
<p>Materials and equipment for fermentation</p>	<ul style="list-style-type: none"> • Fermentation equipment may include water baths, cabinets, tunnels, multipurpose tanks, and fermentation tanks. • Materials used in fermentation may include raw materials/pre-processed materials to be fermented, starters such as single strain starters, and multiple strain cultures, mixed strains.
<p>Methods of concentration and drying</p>	<ul style="list-style-type: none"> • Methods used to concentrate foods include evaporation, filtration, reverse osmosis and freeze concentration. • Methods used to dry foods include sun drying, cabinet, spray, drum drying and freeze dehydration.
<p>Materials and equipment for concentration and drying</p>	<p>Heating and cooling systems, hygiene and sanitation equipment, drying, dehydration and systems, concentration systems and other relevant food processing equipment.</p>
<p>Materials and equipment for cooking or steaming</p>	<p>Equipment typically includes weighing and measuring equipment; sieves; blending and mixing equipment; cooking equipment or shell and tube heat exchangers/cookers (continuous processing).</p>

Unit Sector(s)

Technical.

FDFST4002A Monitor the development and implementation of a food QA system

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to develop and manage a HACCP-based Quality Assurance (QA) Program.

Application of the Unit

This unit applies to quality assurance and technical staff who have responsibility for developing and/or implementing a HACCP-based QA system in a food processing environment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish the scope of the QA system	1.1 Enterprise needs and expectations in product quality are clearly defined 1.2 Existing systems and requirements are detailed for incorporation into the QA system 1.3 Scope of the HACCP-based quality system is defined to encompass production system and product requirements 1.4 System is directed to prevent and control identified hazards
2. Conduct hazard analysis and assessment	2.1 Every step in the production process is assessed for potential food safety hazards 2.2 Critical Control Points (CCPs) are established to identify where each significant hazard can be prevented or controlled 2.3 A measurable or recognisable standard is assigned for each CCP to define the critical limits 2.4 Critical limits are technically and scientifically validated
3. Ensure all documents, work procedures and processes required for the system are developed, available and in use	3.1 All products and processes covered by the QA system are described in a standardised format defining product characteristics relevant to food safety 3.2 Work instructions and Standard Operating Procedures (SOPs) are reviewed for accuracy, relevance and sufficiency to prevent hazards 3.3 Documented procedures for monitoring CCPs are implemented 3.4 Documented procedures which ensure any CCPs which are outside critical limits are brought back within limits, and affected product is suitably handled, are implemented 3.5 Documented procedures are implemented to ensure the QA system is regularly verified and audited as working effectively 3.6 Availability and data storage of all records and documents for the system is maintained
4. Respond to non-conforming product or processes	4.1 Procedures for taking corrective action are identified 4.2 Corrective and preventative measures are implemented to prevent recurrence. 4.3 Procedures are devised or revised to support control measures 4.3 Processes or conditions which could result in a breach of procedures are identified and corrective action is taken 4.4 Process changes are introduced and controlled so that quality assurance requirements are accomplished
5. Review product sampling and test results	5.1 Product sampling procedures are identified 5.2 Post collection procedures are identified according to SOPs 5.3 Test results are reviewed and responded to in accordance with

ELEMENT	PERFORMANCE CRITERIA
	workplace requirements
6. Audit, verify and validate the system	<p>6.1 HACCP plans are routinely revised, verified and validated to reassess hazards, CCPs, critical limits, testing methods and all related procedures of the QA system to ensure they are appropriate to the enterprise requirements</p> <p>6.2 Internal or external audit findings are followed up and acted upon</p> <p>6.3 Reported quality hazards and non conformances are investigated and acted upon</p> <p>6.4 The HACCP-based QA system is reviewed to take account of any process changes or product specifications</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- define the scope of the quality system and food safety system to ensure requirements are met
- apply the HACCP principles and the process for developing a quality assurance or food safety program
- conduct monitoring of a CCP
- determine and take corrective and preventative action
- apply workplace, regulatory and customer requirements critical to the workplace's operation and success
- identify critical limits for enterprise product or processes
- identify the actual and potential risks associated with uncontrolled changes in procedures
- interpret the resulting trends of product monitoring and testing
- interpret the results and trends of process monitoring
- monitor records and documentation for accuracy and compliance
- monitor the accurate and timely recording of quality data
- outline legal obligations of the enterprise and individuals for maintenance of the Quality Assurance system
- identify and apply relevant OH&S, regulatory and workplace requirements
- identify the documentation required to support a HACCP-based QA system
- record and analyse monitoring and verification data
- validate CCPs and critical limits
- identify and describe implementation of a change in the process
- identify causes of variation and non-conformance and explain appropriate course(s) of action to rectify problems
- outline team requirements and team management processes or strategies
- prepare process and product status reports recommending changes to improve processes and procedures
- prepare reports using primary and summary data, and appropriate language
- review communication systems (spoken and written) to minimise the potential for misreporting and misunderstanding of food safety requirements, procedures and plans
- use relevant communication skills
- Utilise available technology to record, manipulate, analyse and present or report data
- apply appropriate mathematical concepts and measures
- assemble product and process inspection, test and other quality data in prescribed format.

Required knowledge includes:

Knowledge of:

- the steps in the development of a HACCP-based QA system

- the steps in the systematic introduction of a HACCP-based QA system
- enterprise recall and traceability procedures
- post collection procedures for handling samples
- purpose of the HACCP development and review process
- risks associated with samples and how they may be minimised
- the types of data the enterprise uses to record performance
- the document controls associated with a procedure change
- the purpose of calibrating equipment
- the purpose of SOPs and work instructions
- sampling procedures
- the process of auditing and verifying a HACCP-based QA system
- the objectives of a HACCP-based QA system
- the process for validating critical limits and CCPs
- the role of pre-requisite programs and Good Manufacturing Processes (GMPs) in a HACCP-based program.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to develop and manage a HACCP-based Quality Assurance (QA) Program.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of evidence that the candidate can monitor the development and implementation of a food QA system must include the following:</p> <ul style="list-style-type: none"> • scoping the requirements for a QA system • analysing a production process to identify CCPs and establish critical limits • developing procedures for implementing and monitoring a QA system • maintaining data and documentation for a QA system • contributing to a review of a QA system, including verification and validation.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of the processes specified, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures • methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • the development of a HACCP-based quality system for a food product

	<ul style="list-style-type: none">• a report on review of a HACCP-based quality production system• workplace evidence and third party verification of participation in the development and implementation of a HACCP-based QA system• Case studies• Field Reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> • Codes of practice • Material Safety Data Sheets • Enterprise OHS policies, procedures and programs.
<p>Regulations</p>	<ul style="list-style-type: none"> • Australian and international standards including: • Australia New Zealand Food Standards Code • ISO Standards • codex alimentarius • industry guidelines and codes of practice • industry regulations • State food regulations.
<p>Workplace requirements</p>	<ul style="list-style-type: none"> • Enterprise QA policy, practices and procedures • Enterprise-specific procedures • SOPs <p>Enterprise task requirements and work instructions.</p>
<p>Production system and product requirements</p>	<ul style="list-style-type: none"> • These may include food safety, product quality, regulatory compliance, animal welfare (if required) and preventative maintenance.
<p>Verification of a QA system</p>	<ul style="list-style-type: none"> • Verification refers to methods and procedures used to carry out monitoring, including sampling and testing to provide evidence that the specifications set by relevant legislation and codes of practice continue to be met.
<p>Validation of a QA system</p>	<ul style="list-style-type: none"> • Validation refers to obtaining evidence to confirm that a HACCP-based QA program is complete and effective and will deliver the expected outcomes.

Unit Sector(s)

Technical.

FDFST4003A Apply digital technology in food processing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to develop and manage a HACCP-based Quality Assurance (QA) Program.

Application of the Unit

This unit applies to quality assurance and technical staff who have responsibility for developing and/or implementing a HACCP-based QA system in a food processing environment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish the scope of the QA system	1.1 Enterprise needs and expectations in product quality are clearly defined 1.2 Existing systems and requirements are detailed for incorporation into the QA system 1.3 Scope of the HACCP-based quality system is defined to encompass production system and product requirements 1.4 System is directed to prevent and control identified hazards
2. Conduct hazard analysis and assessment	2.1 Every step in the production process is assessed for potential food safety hazards 2.2 Critical Control Points (CCPs) are established to identify where each significant hazard can be prevented or controlled 2.3 A measurable or recognisable standard is assigned for each CCP to define the critical limits 2.4 Critical limits are technically and scientifically validated
3. Ensure all documents, work procedures and processes required for the system are developed, available and in use	3.1 All products and processes covered by the QA system are described in a standardised format defining product characteristics relevant to food safety 3.2 Work instructions and Standard Operating Procedures (SOPs) are reviewed for accuracy, relevance and sufficiency to prevent hazards 3.3 Documented procedures for monitoring CCPs are implemented 3.4 Documented procedures which ensure any CCPs which are outside critical limits are brought back within limits, and affected product is suitably handled, are implemented 3.5 Documented procedures are implemented to ensure the QA system is regularly verified and audited as working effectively 3.6 Availability and data storage of all records and documents for the system is maintained
4. Respond to non-conforming product or processes	4.1 Procedures for taking corrective action are identified 4.2 Corrective and preventative measures are implemented to prevent recurrence 4.3 Procedures are devised or revised to support control measures 4.4 Processes or conditions which could result in a breach of procedures are identified and corrective action is taken 4.5 Process changes are introduced and controlled so that quality assurance requirements are accomplished
5. Review product sampling and test results	5.1 Product sampling procedures are identified 5.2 Post collection procedures are identified according to SOPs 5.3 Test results are reviewed and responded to in accordance with

ELEMENT	PERFORMANCE CRITERIA
	workplace requirements
6. Audit, verify and validate the system	6.1 HACCP plans are routinely revised, verified and validated to reassess hazards, CCPs, critical limits, testing methods and all related procedures of the QA system to ensure they are appropriate to the enterprise requirements 6.2 Internal or external audit findings are followed up and acted upon 6.3 Reported quality hazards and non conformances are investigated and acted upon 6.4 The HACCP-based QA system is reviewed to take account of any process changes or product specifications

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- define the scope of the quality system and food safety system to ensure requirements are met
- apply the HACCP principles and the process for developing a quality assurance or food safety program
- conduct monitoring of a CCP
- determine and take corrective and preventative action
- apply workplace, regulatory and customer requirements critical to the workplace's operation and success
- identify critical limits for enterprise product or processes
- identify the actual and potential risks associated with uncontrolled changes in procedures
- interpret the resulting trends of product monitoring and testing
- interpret the results and trends of process monitoring
- monitor records and documentation for accuracy and compliance
- monitor the accurate and timely recording of quality data
- outline legal obligations of the enterprise and individuals for maintenance of the Quality Assurance system
- identify and apply relevant OH&S, regulatory and workplace requirements
- identify the documentation required to support a HACCP-based QA system
- record and analyse monitoring and verification data
- validate CCPs and critical limits
- identify and describe implementation of a change in the process
- identify causes of variation and non-conformance and explain appropriate course(s) of action to rectify problems
- outline team requirements and team management processes or strategies
- prepare process and product status reports recommending changes to improve processes and procedures
- prepare reports using primary and summary data, and appropriate language
- review communication systems (spoken and written) to minimise the potential for misreporting and misunderstanding of food safety requirements, procedures and plans
- use relevant communication skills
- Utilise available technology to record, manipulate, analyse and present or report data
- apply appropriate mathematical concepts and measures
- assemble product and process inspection, test and other quality data in prescribed formal.

Required knowledge includes:

Knowledge of:

- the steps in the development of a HACCP-based QA system

- the steps in the systematic introduction of a HACCP-based QA system
- enterprise recall and traceability procedures
- post collection procedures for handling samples
- purpose of the HACCP development and review process
- risks associated with samples and how they may be minimised
- the types of data the enterprise uses to record performance
- the document controls associated with a procedure change
- the purpose of calibrating equipment
- the purpose of SOPs and work instructions
- sampling procedures
- the process of auditing and verifying a HACCP-based QA system
- the objectives of a HACCP-based QA system
- the process for validating critical limits and CCPs
- the role of pre-requisite programs and Good Manufacturing Processes (GMPs) in a HACCP-based program.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to develop and manage a HACCP-based Quality Assurance (QA) Program.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of evidence that the candidate can monitor the development and implementation of a food QA system must include the following:</p> <ul style="list-style-type: none"> • scoping the requirements for a QA system • analysing a production process to identify CCPs and establish critical limits • developing procedures for implementing and monitoring a QA system • maintaining data and documentation for a QA system • contributing to a review of a QA system, including verification and validation.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of the processes specified, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures • methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • the development of a HACCP-based quality system for a food product

	<ul style="list-style-type: none">• a report on review of a HACCP-based quality production system• workplace evidence and third party verification of participation in the development and implementation of a HACCP-based QA system• Case studies• Field Reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> Codes of practice Material Safety Data Sheets Enterprise OHS policies, procedures and programs.
<p>Regulations</p>	<ul style="list-style-type: none"> Australian and international standards including: Australia New Zealand Food Standards Code ISO Standards codex alimentarius industry guidelines and codes of practice industry regulations State food regulations.
<p>Workplace requirements</p>	<ul style="list-style-type: none"> Enterprise QA policy, practices and procedures Enterprise-specific procedures SOPs <p>Enterprise task requirements and work instructions</p>
<p>Production system and product requirements</p>	<ul style="list-style-type: none"> These may include food safety, product quality, regulatory compliance, animal welfare (if required) and preventative maintenance.
<p>Verification of a QA system</p>	<ul style="list-style-type: none"> Verification refers to methods and procedures used to carry out monitoring, including sampling and testing to provide evidence that the specifications set by relevant legislation and codes of practice continue to be met.
<p>Validation of a QA system</p>	<ul style="list-style-type: none"> Validation refers to obtaining evidence to confirm that a HACCP-based QA program is complete and effective and will deliver the expected outcomes.

Unit Sector(s)

Technical.

FDFST4004A Perform microbiological procedures in the food industry

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit provides an introduction to food microbiology. It covers the skills and knowledge required to perform on-site microbiological laboratory techniques and to interpret the results.

Application of the Unit

This unit applies to laboratory and senior technical staff, and production managers, who are required to monitor the microbiology of food and food processing operations. This unit does not require the performance of microbiological procedures in a NATA certified facility. However it does require the ability to perform on site tests required in a food processing enterprise, to interpret the results of testing as part of monitoring production processes, and to identify the need for certified laboratory testing.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for safe microbiological work using aseptic techniques	1.1 Work area and equipment are selected for the safe handling of materials that may contain micro-organisms 1.2 Protective apparel is worn 1.3 Relevant emergency equipment is selected, for timely response to microbiological accidents 1.4 Correct disinfection procedures are applied to work areas before, and after use 1.5 Standard precautions, when handling biological materials, are applied 1.6 Relevant emergency equipment is selected, for timely response to microbiological accidents 1.7 Correct disinfection procedures are applied to work areas before, and after use
2. Process microbiological samples and undertake microscopy	2.1 Thin smears of samples for subsequent staining are prepared and stained 2.2 Liquid films of specimens, for direct observation, are prepared 2.3 Relevant samples are concentrated to facilitate microscopy 2.4 Stereo and compound microscopes are set up correctly, and causes of variations in image quality are identified 2.5 Microscopes are cleaned and stored according to procedures 2.6 Dry, wet and stained microbiological specimens are correctly examined
3. Apply aseptic techniques correctly to cultivate and isolate micro-organisms	3.1 Broths, slopes, and plates of typical media are prepared 3.2 Aseptic transfers of micro-organisms to prepared liquid and solid media are performed 3.3 Bacteria are streaked onto agar plates to isolate single colonies using aseptic technique 3.4 Temperature conditions and gaseous environments are selected which are suitable for the growth of a range of common micro-organisms
4. Estimate the number of micro-organisms in food and water samples	4.1 Samples are prepared for testing 4.2 Serial dilutions are accurately and aseptically carried out 4.3 Bacterial growth in the sample is estimated and recorded 4.4 The bacterial load of the sample is calculated and the results reported
5. Perform and interpret tests to assist in the identification of common bacterial	5.1 Tests are performed on pure cultures to assist in the identification of major bacterial groups 5.2 Pure cultures selected from common bacterial genera are

ELEMENT	PERFORMANCE CRITERIA
genera	<p>prepared</p> <p>5.3 Stained specimens are selected and prepared to demonstrate features and cellular characteristics of major bacterial groups</p>
6. Apply quality assurance procedures commonly used in a food testing laboratory	<p>6.1 The controls used to monitor accuracy and precision of results in a microbiological laboratory are applied</p> <p>6.2 All tests are performed in accordance with enterprise quality procedures</p> <p>6.3 All test data is recorded and reported in accordance with enterprise quality procedures</p>
7. Interpret the results of laboratory testing and relate to the production plan	<p>7.1 Laboratory test results are accessed</p> <p>7.2 Laboratory tests are compared to allowable variances and critical limits in production</p> <p>7.3 Adjustments are made to recipes or operating procedures to ensure critical limits are complied with</p> <p>7.4 The need for further certified testing is established</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify types of animal, plant and microbial cells and their components and functions
- safely perform tasks for the isolation, identification and cultivation of microorganisms
- set up and use microscope slides and a microscope
- avoid contamination of self, other people, the work area, equipment or the samples under test
- avoid contamination of media or reagents during manipulations involving transfer of cultures
- identify artefact or image aberration attributable to misalignment or obstruction of light paths or condensers used in bright field, dark ground, or with other steps in microscopic examinations
- recognise the use of the Gram reaction in the identification of common types of bacteria
- accurately describe forms of bacterial colonies on common media used in bacteriological investigations in the food industry
- correctly and safely perform tests to assist in the identification of bacteria
- identify and correctly use methods for the control of growth of micro-organisms
- report all incidents or accidents
- disinfect any spillage and safely dispose of all contaminated materials
- decontaminate the work area upon completion of work
- ensure that quality assurance procedures, commonly used in a food testing laboratories, are used.

Required knowledge includes:

Knowledge of:

- physiological characteristics of animal, plant and microbial cells
- microbiological terminology
- use of protective clothing and biological safety cabinets
- disinfection and sterilisation as applied to practical aspects of microbiology
- microbial diversity and growth
- micro-organisms of significance in the production and spoilage of foods
- chemical and physical methods available for controlling microbial growth
- methods for sterilisation or control of a given micro-organism
- the Gram reaction in the identification of common types of bacteria
- advantages and disadvantages of the identified methods are established
- rationale for sample dilution when preparing materials for enumerating organisms and other pure culture work
- relevant health, safety and environment requirements.
- chemical and physical methods available for controlling microbial growth

- quality assurance procedures commonly used in a food testing laboratories.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform microbiological laboratory techniques that are relevant to food processing, with the use of appropriate equipment.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to perform on site tests required in a food processing enterprise, to interpret the results of testing as part of monitoring production processes, and to identify the need for certified laboratory testing.
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • suitable laboratory equipment and a sufficient range of samples to allow microbiological procedures to be demonstrated • procedures and templates used to report relevant product/process information and recorded results.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of candidate conducting a range of tests and procedures • written and/or oral questioning to assess knowledge of microbiology related to food processing • report including interpreting test results and making recommendations for production • completing workplace documentation • third party reports from experienced practitioner • field reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a

EVIDENCE GUIDE	
	range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<ul style="list-style-type: none"> • Codes of practice, regulations, Material Safety Data Sheets (MSDSs) • AS/NZS 2243.3 - Safety in laboratories, Part 3: Microbiology • Enterprise specific: Standard Operating Procedures(SOPs): <ul style="list-style-type: none"> • safety requirements for equipment, materials or products • cleaning, hygiene, personal hygiene requirements • incident and accident/injury reports • Australian and international standards, including: Food Standards Code 2002 Australia New Zealand and amendments: <ul style="list-style-type: none"> • AS 2830 Good laboratory practice • AS/NZS 2243 Safety in Laboratories • AS/766 Food microbiology • Enterprise Standard Operating Procedures(SOPs) • Acts of Parliament
Occupational health and safety requirements	<ul style="list-style-type: none"> • Codes of practice • Material Safety Data Sheet • Enterprise specific.
Regulations	<ul style="list-style-type: none"> • Australian and international standards including: <ul style="list-style-type: none"> • professional association regulations • industry guidelines and codes of practice • industry regulations • Food Standards Code • ISO Standards

RANGE STATEMENT	
	<ul style="list-style-type: none">• codex alimentarius• Federal and state food regulations• International, Australian and State EPA protocols and regulations regarding waste.

Unit Sector(s)

Technical.

FDFST4005A Document processes and procedures for a food product

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to document the operational steps and procedures in producing a processed food product.

Application of the Unit

This unit applies to quality assurance and technical staff who are required to document processes and procedures for a food product, and who have responsibility for monitoring and maintaining product safety and quality and the production environment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the stages and operations required in the processing of a food product	1.1 Inputs, production processes and outputs are identified 1.2 Each step in processing is examined and impacts, feedback and process adjustment in the production system is assessed 1.3 Hazards to food safety and product quality at each stage of production are identified
2. Identify the facilities, equipment, workflow and process controls for a processed food product	2.1 Functions of the major production stages are classified and analysed 2.2 Equipment used to perform each operation stage is identified 2.3 The facilities, workflow and layout of the workplaces, or technical work area, together with their core activities and links with other parts of the organisation are identified 2.4 Process controls are documented for a processed food product 2.5 The workforce structure and the roles and responsibilities of workplace personnel are established for a given food product 2.6 Information management processes are investigated for a food processing operation
3. Produce flow diagrams for nominated unit operations	3.1 Correct nomenclature and symbols are used to show processes, inputs and outputs 3.2 The completed flow diagram is reviewed and suggestions for improvements for product quality and operational efficiency are documented 3.3 Energy and resource usage, and environmental impacts, of production processes are quantified 3.4 Procedures for testing for yields and/or variances are identified at each stage 3.5 Areas for process improvement are identified for further analysis

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify major stages and operations, including: material transfer, separation, size reduction, combination, heat exchange, biochemical transformation, shaping and extrusion
- analyse the functions of the major operations, including purpose and application of each operation
- identify the range of equipment used to perform each major unit operation
- establish the function of each piece of equipment used to perform major operations
- review the resultant products of the major production operations on food, in accordance with quality control processes and procedures
- ascertain the affects of physical conditions e.g. temperature, pressure on the function of these unit operations
- prepare a process flow chart for each unit operations
- identify the process controls in place and how they ensure required production rate and consistent quality.

Required knowledge includes:

Knowledge of:

- the basic theory behind each major operation e.g. material transfer, separation, size reduction, combining, heat exchange, biochemical transformation and shaping
- selection criteria regarding the equipment used to perform each major operation
- the basic operating principles for the equipment used to perform each major operation
- process flow charts and process control.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to document processes in a production system as part of system monitoring and continuous improvement.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to document procedures for a food product, including identifying unit operations and representing a food processing operation in a diagrammatic form. Documented procedures must be able to be interpreted to review mechanisms for calculating variances and outputs that are outside of specification, and to identify areas for further refining and development under continuous improvement for a food product.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers’ advice and operating procedures • methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • completing workplace documentation • third party reports from experienced practitioner • case studies

	<ul style="list-style-type: none"> • field reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> • Codes of practice, regulations, Material Safety Data Sheets (MSDSs) • Enterprise specific requirements • Relevant State/Territory/Commonwealth Occupational Health and Safety acts, regulations, national standards, codes of practice and guidance notes which may apply in jurisdiction • Examples of specific task related procedures may include: <ul style="list-style-type: none"> • handling of chemicals • use of personal protective equipment (PPEs).
<p>Regulations</p>	<ul style="list-style-type: none"> • Australian New Zealand Food Standards Code • AQIS • Local Authority standards • Symbols for process flow charts may be based on ISO 9000 Documentation, Quality Manual and 32 Operational Procedures (AQA ISO 9000 Series) • Acts of Parliament, regulations and statutes.
<p>Materials, equipment and systems</p>	<ul style="list-style-type: none"> • Heating and cooling equipment, size reduction systems, materials transfer equipment, heat exchangers, forming and shaping equipment • Major operations may include: material transfer, separation, size reduction, combining, heat exchange, biochemical transformation, shaping and extrusion operations. • Each operations may include preventative maintenance procedures.

Unit Sector(s)

Technical.

FDFST4006A Apply food preservation technologies

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to apply food preservation technologies and to review their effectiveness and efficiency based on an understanding of food science and technology.

Application of the Unit

This unit applies to quality assurance and technical staff who must oversight the preservation of food. It covers low and high temperature preservation as well as the evaluation of alternative preservation methods such as irradiation and high pressure processing.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply high temperature preservation methods for food	1.1 The need for heat treatment of foods is established 1.2 Preparatory procedures for heat treatment processes are implemented 1.3 Heat treatment processes are applied and monitored 1.4 The physical, biochemical and microbiological changes to a food product after heat treatment are assessed
2. Apply low temperature preservation methods for food	2.1 The need for chilling or freezing treatments of foods is established 2.2 Preparatory procedures for chilling or freezing treatment processes are implemented 2.3 Chilling or freezing processes for food preservation are applied and monitored 2.4 The physical, biochemical and microbiological changes to a food product after chilling or freezing treatment processes is assessed
3. Evaluate alternative existing technologies for food preservation	3.1 Effectiveness and consumer acceptance of irradiation is reviewed 3.2 The effect of irradiation on food products is evaluated 3.3 The application of a high pressure preservation process is reviewed 3.4 The effect of high pressure preservation on food products is evaluated 3.5 A process chart for the implementation of alternative food preservation processes is developed

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

Heat treatment processes

- identify the different techniques used in industry to apply heat on food as a preservation method
- identify the most suitable heat application techniques for specific food products
- evaluate physical changes caused by high temperature on food
- assess the relationship between high temperature and deactivation and destruction of micro-organisms
- identify the enzymatic and other chemical changes caused by high temperature
- identify quality defects that arise as a result of heat application of food
- enter processing/operating parameters to heat treatment equipment as required to meet safety and production requirements
- operate, check and adjust heat treatment equipment performance as required

Low temperature processes

- differentiate between chilling and freezing of foods
- identify the effects of slow and quick freezing on the quality and properties of food
- identify the different techniques used in industry to chill and freeze food stuffs
- identify the most appropriate chilling and freezing techniques for specific food products
- review the efficiency, cost effectiveness and environmental impact of refrigerants used in chillers and freezers
- identify critical quality defects associated with long-term chilling and freezing of foods
- enter processing/operating parameters to chilling or freezing treatment equipment as required to meet safety and production requirements
- operate, check and adjust low temperature treatment equipment performance as required

Irradiation processes

- identify foods suitable for irradiation
- analyse surveys and other feedback indicating consumer acceptance of irradiation
- identify the most suitable irradiation techniques for specific food products
- evaluate physical changes caused by irradiation of food
- assess the extent of destruction of micro-organisms
- identify any enzymatic and other chemical changes caused by irradiation
- identify quality defects that arise as a result of irradiation of food
- identify processing/operating parameters of irradiation equipment as required to meet safety and production requirements
- operate, check and adjust irradiation equipment performance as required
- identify labelling and other regulatory requirements of irradiation of food

High pressure processes

- identify foods suitable for high pressure processing
- identify the most suitable high pressure techniques for specific food products
- evaluate physical changes caused by high pressure processing of food
- assess the extent of destruction of micro-organisms
- identify any enzymatic and other chemical changes caused by high pressure processing
- identify the potential for quality defects that arise as a result of high pressure processing of food
- identify processing/operating parameters of high pressure processing equipment as required to meet safety and production requirements
- operate, check and adjust high pressure equipment performance as required.

Required knowledge includes:

Knowledge of:

Heat treatment processes

- the difference between blanching, steaming, canning and other methods of heat application to food
- the effects of application of heat on qualities and properties of food stuffs
- biochemical, microbiological and physical changes to food as a result of heat application
- critical quality defects which can occur as a result of heat treatment
- how operating conditions, such as temperature fluctuations or water /steam contacts with food affects the nutritional/chemical composition of food
- how product parameters, such as type, size, shape and chemical and biological composition affect the effectiveness of heat treatment on food
- the calculation and interpretation of F_0 , Lethality and F_h values

Low temperature processes

- the different techniques adopted in industry for freezing food products
- appropriate freezing techniques, including freeze drying, for specific food products
- industrial refrigerants currently used today to maintain low temperatures in chillers and freezers
- the efficiency, cost and environmental impact of such refrigerants
- biochemical, microbiological and physical changes to food as a result of slow or quick freezing
- critical quality defects which can occur as a result of long term and freezing, of foods
- how operating conditions, such as temperature fluctuations, humidity and air velocity, affect the effective chilling and freezing and refrigeration of food
- how product parameters, such as type, size, shape and chemical and biological composition affect the effective chilling and freezing of foods
- the appropriate freezing techniques for the major types of foods that can be frozen without loss of quality: fruits, vegetables, seafood, meats, baked goods and ready to eat food (eg. pizzas)
- refrigerants used in past eg. CFCs & HCFCs, and the ones currently used including HCFC –

123 and various blends

- why certain refrigerants are a problem for the environment eg. depletion of the ozone layer and 'Greenhouse' effect

Irradiation equipment

- types of foods suitable for irradiation
- consumer acceptance and issues with irradiation
- the most suitable irradiation techniques for specific food products
- physical changes caused by irradiation of food
- impact of irradiation on different species of micro-organisms
- enzymatic and other chemical changes caused by irradiation
- potential quality defects that arise as a result of irradiation of food
- processing/operating parameters of irradiation equipment as required to meet safety and production requirements
- irradiation equipment safety and operating
- labelling and other regulatory requirements of irradiation of food

High pressure equipment

- types of foods suitable for high pressure processing
- the most suitable high pressure techniques for specific food products
- possible physical changes caused by high pressure processing of food
- the impact of high pressure preservation technology on different species of micro-organisms
- enzymatic and other chemical changes caused by high pressure processing
- potential quality defects that arise as a result of high pressure processing of food
- operating procedures of high pressure processing equipment as required to meet safety and production requirements
- labelling and other regulatory requirements of high pressure preservation of food.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to undertake and review processes for high or low temperature preservation techniques used in food processing.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to apply food preservation technologies including applying low or high temperature preservation techniques, and documenting physical, biochemical and biological changes to treated food products.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Food preservation equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for carrying out food testing and preservation and collecting data • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner • Case studies and practical activities • Field Reports.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time in a range of actual or simulated environments.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> • Codes of practice, regulations, MSDSs • Enterprise specific • Relevant state/territory/commonwealth Occupational Health and Safety acts, regulations, national standards, codes of practice and guidance notes which may apply in jurisdiction • Examples of specific task related procedures may include: <ul style="list-style-type: none"> • Handling of chemicals • Use of PPEs.
<p>Regulations</p>	<ul style="list-style-type: none"> • Australia New Zealand Food Standards Code • Enterprise specific procedures • Industry regulations • State food regulations • Australian and international standards including: <ul style="list-style-type: none"> • professional association regulations • industry guidelines • codes of practice • ISO standards • codex alimentarius • relevant Acts of Parliament • EPA protocols and regulations regarding refrigerants.
<p>High temperature preservation methods</p>	<ul style="list-style-type: none"> • hot fill • aseptic processing • pasteurisation • ultra-high temperature (UHT) • high temperature short time (HTST) processing.
<p>Heating systems</p>	<ul style="list-style-type: none"> • retort, steam jackets • blanching vessels and pressure cookers • microwave and ohmic and inductive heating equipment • pasteurisation and sterilisation equipment.
<p>Materials, equipment and systems</p>	<ul style="list-style-type: none"> • refrigeration systems for chilling of food stuffs • freezing systems

for low temperature treatment	<ul style="list-style-type: none">• freeze drying systems for heat sensitive products• temperature measuring and recording devices.
--------------------------------------	--

Unit Sector(s)

Technical.

FDFST4007A Establish operational requirements for a food processing enterprise

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to review and report on operational requirements and issues in a food processing enterprise.

Application of the Unit

This unit applies to food technologists, quality and food safety supervisors, technical specialists, and to middle management personnel who are new to the industry. It includes gaining an understanding of the economic and political structure of the industry, production stages and methods and the key factors affecting food safety and quality, and reporting procedures. The person who undertakes this unit must be aware of the intent and detail of legislation and be able to review compliance procedures.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify key issues and organisations that impact the Australian food processing industry	1.1 The range of job roles and responsibilities for a food processing operation are described 1.2 The environmental impacts of a food processing operation are determined 1.3 Impacts of customer expectations for product integrity, quality, safety and nutritional value on food processing operations are explained 1.4 The roles of key regulatory and industry bodies for a food processing sector are described
2. Identify the sequence of operations for processing a range of products in a sector	2.1 Procedures for the assembling and preparation of ingredients are implemented 2.2 The storage and handling requirements of ingredients for a food product are defined 2.3 A flow chart for the processing operations for a food product is constructed 2.4 Specifications for a food product are described and the methods used to ensure critical limits are complied with
3. Explain factors affecting food safety and product quality during processing	3.1 Key food safety issues in food processing are described 3.2 Food safety procedures are implemented and reviewed 3.3 Hygiene procedures for a food processing operation are applied 3.4 Factors affecting shelf life and spoilage in food products are explained 3.5 The nature and purpose of a product testing program is defined
4. Write and/or review standard operating procedures to comply with legislation relating to product and processing	4.1 Relevant legislation and regulations that apply to food production, packaging and labelling are identified 4.2 The purpose and scope of relevant legislation is defined 4.3 The roles and responsibilities of authorities responsible for administering legislation are identified 4.4 Operational and product requirements to comply with legislation are defined 4.5 A standard operating procedure is documented based on an organisation's templates and systems
5. Define organisational requirements to comply with legislation relating to food premises, equipment design and storage facilities	5.1 Legislation and regulations that apply to food premises, storage facilities and equipment are reviewed 5.2 The purpose and intent of relevant legislation is identified 5.3 The roles and responsibilities of authorities responsible for administering legislation are identified 5.4 Procedures to support compliance with legal requirements are established and/or reviewed

ELEMENT	PERFORMANCE CRITERIA
6. Provide written reports and presentations on food processing issues	6.1 Areas of noncompliance or with potential for process improvement are identified 6.2 Information is collected and problem solving strategies are used to review procedures 6.3 Data, discussion and recommendations are presented in a formatted report 6.4 Presentations which incorporate technical data and information are delivered

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- describe industry organisations and their role
- define job roles and responsibilities for the food processing industry
- define the ingredients, operations and product specifications for a food processing operation
- define the inputs and outputs of a food processing operation, including the use of non renewable resources and impacts on air, soil, water and atmospheric CO₂ levels
- identify the legal responsibilities of a food processing company. This includes responsibilities relating to:
 - product content (Food Standards Code)
 - product packaging and labelling, including use of nutritional information panels (Food Standards Code)
 - design requirements of food premises and equipment
 - requirements of storage facilities used for materials, ingredients and final product
 - other requirements as appropriate to the product and/or market (e.g. import and/or export legislation)
- identify and/or develop specifications and procedures to ensure that legal responsibilities related to product content and packaging are achieved
- inspect plant design to identify potential hazards that could be introduced as a result of equipment design and configuration. For example, overhead pipes or equipment where dust could collect and fall into food. Where hazards are identified, apply the hierarchy of control to identify opportunities to remove or control the risk
- identify storage facilities across a production site. Identify the dangerous goods stored on site and confirm that storage of these goods (type and quantity) meets legal requirements
- confirm that employees required to handle chemicals and dangerous goods are advised of the associated risks, that this information is available in a form appropriate to the audience and that Material Safety Data Sheets are available
- develop and/or review recording systems to confirm compliance with legislative requirements and ensure that employees responsible for recording information are informed of these responsibilities
- establish internal review/audit procedures to confirm that legislative responsibilities are met
- within each area of legislation applying to the activities of a food processing facility, identify the relevant authority responsible for administering the legislation. Identify the rights and responsibilities of related officers to access the production site
- present technical information in a written format and as a presentation.

Required knowledge includes:

Knowledge of:

- industry organisations and representative bodies in food processing

- the environmental impacts of a food processing operation
- customer expectations and community perceptions of the food processing industry
- emerging technologies in food processing
- food testing methods
- procedures for QA and food safety
- legal responsibilities of a food processing company relating to product content and packaging
- the purpose and intent of relevant legislation
- potential hazards that could be introduced as a result of equipment design and configuration
- associated risks in handling chemicals and dangerous goods
- recording requirements to comply with legislative requirements
- recording procedures
- report templates and protocols
- oral and written communication strategies and protocols
- relevant authorities responsible for administering legislation and their roles

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Candidates must be able to demonstrate the ability to establish and/or review procedures to support compliance and report on process improvement issues. Assessment must also include evidence of an understanding of: the role of industry organisations and job roles within the industry; systems, roles and procedures in place for food safety and QA; and legal requirements for the packing, production and labelling operations of a food production enterprise.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace processes and procedures • workplace documentation including specifications and procedures • relevant legislation • communication systems • workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • completing workplace documentation • third party reports for the implementation of enterprise requirements for product safety and quality • case studies • field reports.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Legislation</p>	<p>Legislation to be covered by this unit includes:</p> <ul style="list-style-type: none"> • Acts of Parliament, regulations and statutes • Australian New Zealand Food Standards Code • Food Safety legislation (including provisions covering the design of food premises and equipment) • Local Authority regulations • Customs and excise legislation (for alcohol-based ingredients/materials) • AQIS requirements • Dangerous goods legislation • Import and export legislation • Additional legislation as appropriate to product, process and market.
<p>Industry and regulatory organisations</p>	<p>These may include industry funded marketing co-operatives, research and development organisations (RDOs), certification bodies, federal and state regulatory agencies for OHS, environment and food safety, the Australian Quarantine Inspection Service, export and third party auditors, and organisations sponsoring QA schemes.</p>
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> • Codes of practice, regulations, Material Safety Data Sheets (MSDSs) • Enterprise specific requirements • Relevant State/Territory/Commonwealth Occupational Health and Safety acts, regulations, national standards, codes of practice and guidance notes which may apply in jurisdiction • Examples of specific task related procedures may include: <ul style="list-style-type: none"> • handling of chemicals • use of personal protective equipment (PPEs).
<p>Materials, equipment and systems</p>	<ul style="list-style-type: none"> • Heating and cooling equipment, size reduction systems, materials transfer equipment, heat exchangers, forming and shaping equipment • Major operations may include: material transfer, separation, size reduction, combining, heat exchange,

	<p>biochemical transformation, shaping and extrusion operations</p> <ul style="list-style-type: none">• Operations includes all food processing and preventative maintenance.
--	---

Unit Sector(s)

Technical.

FDFST4008A Preserve food in cans or sealed containers

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to process low acid foods and preserve food in hermitically sealed containers or hermetically sealed packaging.

Application of the Unit

This unit applies to quality assurance and other technical staff who have responsibility for maintaining product safety, quality and the production environment in processing and sealing food into airtight containers. The unit applies to two and three piece cans used in food and beverage production and other sealed containers.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Oversight the preparation of the packaging materials for thermal processing	1.1 Suitable containers for canning are identified 1.2 Container's properties, function, and integrity is assessed 1.3 The parts of a can and end (top) are identified 1.4 A can closing machine (seamer) is set up and trial operation undertaken 1.5 The characteristics of the seamed cans are measured and calculated
2. Oversight food preparation and filling of cans	2.1 The quality requirements of raw materials for processing are identified 2.2 The correct procedures for dicing and slicing are performed 2.3 The blanching process is correctly implemented using either steam, water, microwaves or hot gas 2.4 The correct filling procedures for syrups and brines are applied to produce the specified head space 2.5 Cans are weighed with headspaces, drained and net weights recorded 2.6 Exhausting is carried out to remove all gases from the headspace and oxygen from the can 2.7 Closing of the can is monitored
3. Ensure hermetic sealing of processed food product	3.1 The quality requirements of raw materials for processing are accessed and applied 3.2 Raw materials are cooked and prepared in an aseptic environment 3.3 Materials are placed into containers and hermetically sealed
4. Eliminate harmful micro-organisms in the hermetic sealing or canning of low acid foods	4.1 Micro-organisms relevant to the canning of low acid foods are identified 4.2 The D Value of micro-organisms is interpreted 4.3 The types of microbial spoilage important in food canning are assessed 4.4 The process for eliminating the risk of microbial spoilage in a food product is documented
5. Assess the impact of acidification in relation to hermetic sealing or canning of low acid foods	5.1 The acidity of a range of foods is measured 5.2 The relationship between acidity and growth of micro-organisms is identified 5.3 Critical Control Points (CCPs) are established for acidified foods
6. Monitor retort operation	6.1 Containers are loaded onto baskets 6.2 The retort is sealed

ELEMENT	PERFORMANCE CRITERIA
	6.3 Air trapped inside the retort is removed prior to processing
	6.4 Pressure is built up in the retort and sterilisation temperature is maintained
	6.5 The can is cooled using chlorinated water
7. Review a canning operation	7.1 Critical Control Points (CCPs) for a canning operation are reviewed
	7.2 Data is reviewed to ensure adherence within critical limits for each CCP
	7.3 Operating procedures are reviewed to ensure a quality and safe canned product

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- define commercial sterility
- identify who can establish a thermal process
- identify the components in establishing a thermal process
- establish heat treatment procedures
- assess the factors affecting heat treatment
- identify the role of chlorination in canning low acid foods
- acidify food as part of processing
- establish and assess the requirements for canning low acid food
- establish and assess the requirements for canning high acid foods
- set up and operate a retort to specification for a scheduled process
- calculate the lethality value for a product
- calculate the Fo Value from available data by using the:
 - graphical integration method
 - Gillespie method
- calculate the Sterilising Value of process by using the:
 - trapezoidal method
 - micro-organism population method
- calculate the Fh value for different container sizes
- calculate the time it would take to reach a given temperature at the slowest heating point in a can
- identify factors that impact the thermal process
- construct confidence intervals for mean and standard deviation
- compute 't-test'
- read and interpret 't-table'
- determine significance of results using 't-test'
- calculate X^2
- test X^2 significance at 95 and 99 percent
- recognise a process deviation.

Required knowledge includes:

Knowledge of:

- types of thermal processing systems
- the principles and purposes for blanching
- the function and use of each system
- the parts of a retort/cooker

- relevant legislation and regulations that apply to the canning process of low acid foods
- roles and responsibilities of authorities responsible for administering legislation
- the chemical properties and application of chlorine in canning
- principles of thermal processing, including use of a retort
- aseptic techniques for packaging food under aseptic conditions
- characteristics of two piece and three piece (seamed) cans
- dicing, slicing, blanching and brining processes
- the types micro-organisms relevant to the canning of low acid foods, including their basic structure and growth patterns
- d value of micro-organisms
- low acid foods, acidification and their relationship to the growth of organisms
- critical control points
- chemical properties of chlorine, and how it effects micro-organisms
- methodology for the measurement of Chlorine in cooling water
- D,Z,J, Fo and Fh Values
- Thermal Death Rate, Lethality Value and Sterilisation Value
- Confidence intervals and tests of significance
- Approximation
- Principles of variability
- Principles of variance.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to preserve food products in hermetically sealed containers, and review a commercial canning operation based on test data and documented procedures.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the following:</p> <ul style="list-style-type: none"> • overlooking the food preparation for food canning or other hermetically sealed packaging • supervising the set up and operation of hermetically sealed packaging or canning equipment including the production of trial canning • establishing the CCPs and critical limits for a canning process or other hermetically sealed packaging • calculating pressures, temperatures and cooking times to eliminate the risk of microbial spoilage for a canning or hermetic sealing operation.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <ul style="list-style-type: none"> • Assessment must occur in a real or simulated workplace where the assessee has access to: • production process and related equipment, manufacturers' advice and operating procedures • equipment and facilities for carrying out canning processes and testing of canned products.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • observation of candidate conducting a range of canning or hermetic sealing operations • a report on review of a canning or hermetic sealing operation.

Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.
-------------------------------------	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Occupational health and safety requirements	<ul style="list-style-type: none"> • Codes of practice • Material Safety Data Sheet • Enterprise specific.
Regulations	<ul style="list-style-type: none"> • Australian and international standards including: <ul style="list-style-type: none"> • professional association regulations • industry guidelines and codes of practice • industry regulations • Food Standards Code • ISO Standards • codex alimentarius • State food regulations
Cans	Cans may be two or three piece and steel or aluminium. Closures may be ring pull or require an opener.
Sealed containers	Sealed containers are vacuum-sealed and may include cryovac, bottling or any other airtight container for food products.
Types of canning equipment	Canning may be carried out using still and agitating retorts that may operate as a batch or continuous process. Continuous agitating types include hydrostatic retorts.
Exhausting systems for retort	These may include heat exhaust, steam injection or mechanical exhaust
Food irradiation methods	Methods to deliver ionising radiation to disrupt RNA including radurization, radicidation and radappertization.
Alternative food preservation methods	These may include the range of chemical preservatives, modified atmosphere packaging, lactic fermentation, sugar or ethanol preservation, emulsification, pressure inactivation, water activity through dehydration or

	adding solutes, and pulsed electric field processing.
--	---

Unit Sector(s)

Technical.

FDFST4009A Label foods according to legislative requirements

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to label foods according to legislation.

Application of the Unit

This unit applies to quality assurance and technical staff who have responsibility for maintaining the product safety, quality and legislative requirements for labelling.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify specific criteria required for a food label	1.1 Components of food labels are identified 1.2 The relationship between food label and consumer information is identified 1.3 Ingredients in a food product are accurately described 1.4 Date marking is completed and linked to information on batch number and date of processing 1.5 Directions for use and storage information is provided 1.6 Country of origin information is completed to comply with requirements for food source and place of processing 1.7 Additional general information requirements are published 1.8 Commodity specific labelling requirements are sourced and complied with
2. Document information from the food processing operation required on the product label	2.1 Exemptions for nutrition information panel are identified 2.2 Information on energy, protein, fat, saturated fat, carbohydrate, sugars and sodium content is provided 2.3 The number of servings, the average quantity of food in a serving and the unit quantity of the food is provided 2.4 Declaration of weights and measures is made 2.5 Legislative requirements for specifying allergens and irradiated foods, percentage labelling and mandatory warning and advisory statements and declarations (including GM ingredients) are included on the label
3. Produce a label for a specified food product	3.1 Label data and format is collated 3.2 Software packages are used to produce a nutritional panel for a food label 3.3 Food labels are assessed to determine compliance and modified if necessary 3.4 The operation of labelling equipment is monitored

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify legislation specific to food labelling
- collate data for use on product labels
- specify ingredients in required units of measurement
- classify food additives
- assess nutrition claims for compliance with the Food Standards Code
- assess the product label for compliance with the Food Standards Code.

Required knowledge includes:

Knowledge of:

- Acts, regulations and standards relating to food labelling
- legal and enterprise requirements of a food label
- data to be accessed to populate a product label
- legal implications of incorrect food labelling
- the relationship between the consumer and information required on a label.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to produce a legally compliant food product label that provides clear information to consumers.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to supervise labelling procedures for a food product including compiling nutritional information for a product, establishing elements required for a food label and developing a compliant food label.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers’ advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • observation of candidate conducting a range of processes and tests • a report on review of the production system.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time in a range of actual or simulated environments.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Occupational health and safety requirements	<ul style="list-style-type: none"> • Codes of practice • Material Safety Data Sheet.
Regulations	<p>Australian and international standards including:</p> <ul style="list-style-type: none"> • professional association regulations • industry guidelines and codes of practice • industry regulations • Australian and New Zealand Food Standards Code • ISO Standards • Codex Alimentarius • Australian Competition and Consumer Commission requirements for truth in labelling (including product naming and country of origin) • State food legislation and regulatory requirements • Australian Government Trade Measurement Laws based on the Average Quantity System.

Unit Sector(s)

Technical.

FDFST4010A Apply sensory analysis in food processing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to identify sensory evaluation techniques and to use appropriate terminology when describing the organoleptic properties of food.

Application of the Unit

This unit applies to quality managers, production supervisors and testing staff working for food and beverage processing companies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the organoleptic properties of food	<ul style="list-style-type: none">1.1 The five basic tastes (sweet, salty, bitter, sour and umami) are recognised1.2 The textual properties of food are identified1.3 Aromas and flavours are identified1.4 The effect of colour on the visual properties of food is recognised
2. Confirm the procedures to be used in the sensory evaluation of a food product	<ul style="list-style-type: none">2.1 The purpose and procedures for various sensory evaluation tests are outlined2.2 The methodology of the sensory evaluation tests are reviewed2.3 The factors influencing sensory evaluation tests are identified
3. Coordinate a taste panel	<ul style="list-style-type: none">3.1 Panellists are instructed on the procedure3.2 Samples are prepared according to sensory testing protocols3.3 Appropriate recording documentation is devised or accessed for the sensory evaluation test3.4 Taste panel is organized and run to appropriate standards.3.5 Results of the taste panel are recorded for analysis

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify the organoleptic properties of food
- outline the various sensory evaluation tests used in the food processing industry
- select an appropriate sensory evaluation test method for a given product
- prepare samples for sensory testing
- record results in required format
- review results for evidence of discrepancies or bias
- communicate with and supervise panellists.

Required knowledge includes:

Knowledge of:

- organoleptic properties of food
- sensory evaluation of foods
- interactions and associated characteristics of sensory abilities
- quality requirements for conducting a taste panel
- descriptive, discriminative and affective sensory methods
- organisational quality procedures for sensory testing.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to apply sensory analysis techniques in food processing</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of recognising the organoleptic properties of foods implementing procedures for sensory testing coordinating a taste panel and recording the results.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Sensory testing procedures and related equipment and product for samples • Methods and related software systems as required for collecting data from sensory testing • An appropriate sensory testing environment
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <p>Observation of candidate organising and running a range of tests and procedures</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • completing workplace documentation for the conduct of sensory testing • third party reports from experienced practitioner • role play • case studies • field reports.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time in a</p>

	range of actual or simulated environments.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Legislative requirements including national codes of practice and state food regulatory requirements</p> <p>Safety procedures and MSDS</p> <p>Australian and international standards including:</p> <ul style="list-style-type: none"> • professional association regulations • industry guidelines and codes of practice • Federal and state food safety regulations • Food Standards Code • ISO Standards • codex alimentarius.
<p>The purpose of sensory testing</p>	<p>Tests may be performed to determine the following aspects of a sample: flavour, appearance, aroma, texture.</p> <p>The primary flavour characteristics may include: sweet, sour, umamic, bitter, salty.</p>
<p>Testing methods</p>	<p>Testing methods may include:</p> <ul style="list-style-type: none"> • triangular test, duo-trio test, ranking test, paired comparison test, blending test • flavour profile • threshold analysis • discriminative testing, descriptive testing, affective testing.

Unit Sector(s)

Technical.

FDFST4011A Apply the principles of nutrition to food processing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to provide nutritional information for processed food, and to implement procedures to optimise the nutritional value of a product.

Application of the Unit

This unit applies to production and technical supervisors and quality managers who are required to monitor the nutritional value of foods through processing and to interpret label information, and to members of product development teams who are required to assist in development and testing of products.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret labelling requirements to provide nutritional information	1.1 Food storage and preparation information on food labels is reviewed 1.2 The nutritional values of similar processed food products based on information supplied on the label are compared 1.3 Nutritional information on product labels to develop a diet plan for customers with specific requirements is interpreted
2. Evaluate the impact of processing methods on the nutritive value of processed compared to fresh food	2.1 The effect of processing on the stability and availability of macro and micro nutrients in a range of food products is determined 2.2 Processes for modification of processed foods to enhance nutritional value are investigated 2.3 Food storage methods are compared for the retention of nutritive value and the introduction of food chemicals such as preservatives 2.4 The nutritional impact of a range of additives for flavour or colouring enhancement is investigated 2.5 Health warnings and permissible levels for the use of artificial additives to food products are compiled for a food product range
3. Contribute to the development of a food product to meet a specified dietary requirement	3.1 Appropriate diets for customers with specific requirements or health challenges are identified 3.2 Common nutritional deficiencies and related diseases are evaluated 3.3 The nutritional properties of foods are matched to specified requirements 3.4 A food product is developed and nutritional advice provided

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- recognise key macronutrients required for a healthy diet
- establish the processes of digestion and absorption
- establish the process of energy metabolism in the human body
- describe the role of proteins in nutrition
- describe the role of carbohydrates in nutrition
- describe the role of vitamins and minerals in nutrition
- describe the role of dietary fibre
- describe the role of lipids in nutrition
- describe the body's processes for storing and using water and its role in nutrition
- identify, review and apply key and current nutritional information
- compare the nutritional needs of special population groups
- evaluate nutritional issues in relation to product development, labelling and marketing of processed foods
- identify nutritional related risk factors and diseases
- establish public health and environmental hazards, in relation to nutrition.

Required knowledge includes:

Knowledge of:

- impacts of processing on nutritive properties of food
- nutritional information on food label
- product development processes
- additives as nutritional enhancers
- impacts of processing on nutritive properties of food
- nutritional information on label
- product development to reduce negative nutritional effects or meet nutritional deficiencies
- additives as nutritional enhancers
- key macro and micro nutrients for a healthy diet
- the processes of digestion, absorption and energy metabolism in the human body
- human energy requirements
- dietary guidelines and legislative requirements related to processed foods
- the effects of processing and storage on nutrients, and the methods for overcoming these effects.
- nutrition related risk factors and diseases
- food intolerances and allergies
- diseases caused by nutritional deficiencies
- modified and functional foods and nutraceuticals.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to evaluate processing methods and additives for their effects on the nutritional value of food products, and to apply nutritional knowledge in product development.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to compare the nutritive value of processed food products based on nutritional information, to assess the impact of food processing and preservation techniques on nutrient retention in the food product, and to apply knowledge of food properties and nutrition as part of contributing to product development or planning.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, food testing data and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results • Nutritional information on ingredients and food products.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding

	<ul style="list-style-type: none">• Third party report for contribution to product development and application of nutritional knowledge in a food processing operation• A comparison of food products based on label information• Case studies.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> • Codes of practice • Material Safety Data Sheets • Enterprise OHS policies, procedures and programs.
<p>Regulations</p>	<ul style="list-style-type: none"> • Australian and international standards including: <ul style="list-style-type: none"> • industry guidelines and codes of practice • industry regulations • Australia New Zealand Food Standards Code • ISO Standards • codex alimentarius • State food regulations • Legislation.
<p>Workplace requirements</p>	<ul style="list-style-type: none"> • Enterprise QA policy, practices and procedures • Enterprise-specific procedures • SOPs • Task requirements • Work instructions.
<p>Food processing Regulations/ Standards/ Guidelines</p>	<ul style="list-style-type: none"> • Australian and international standards • Codex Food Processing Standards • Federal and state legislation • NHMRC Australian dietary guidelines • FSANZ labelling regulations.
<p>Organisations</p>	<p>May include:</p> <ul style="list-style-type: none"> • National Health & Medical Research Council (NHMRC) • National Heart Foundation of Australia (NHFA) • Federation of Australian Nutrition Organisations (FANO) • Nutrition Australia • The Nutrition Society of Australia • Dietitians Association of Australia • The Australian Institute of Food Science & Technology • Australian society of clinical immunology and allergy.

Functional foods	Any fresh or processed food claimed to have a health-promoting or disease-preventing property beyond the basic function of supplying nutrients. Fermented foods with live cultures are considered as functional foods with probiotic benefits.
Nutraceuticals	Includes functional foods that also aid in the prevention and/or treatment of disease(s) and/or disorder(s) (except anaemia),
Modified foods	Fresh or processed food which has had components added (e.g. Vitamin C enriched) or reduced (e.g. low fat milk).

Unit Sector(s)

Technical.

FDFST4012A Apply water management principles to the food industry

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to monitor and manage water quality and usage in a food processing operation.

Application of the Unit

This unit applies to quality assurance and technical staff who have responsibility for maintaining product safety, quality and efficiency of food processing operations that use water as part of the food production processes. The unit does not apply to the management of water used in a plant for non food production purposes e.g. for cleaning, showers, gardens etc. Responsible management of water for these purposes is covered under MSAENV472A Implement and monitor environmentally sustainable work practices.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the sources and quality of water available to food processing plants	1.1 Current and possible future sources and quality of raw water are identified 1.2 The water quality requirements for required food processing operations are identified 1.3 The suitability of water supplied from a range of sources, including water recycled from the food processing plant, is assessed 1.4 The consumption of non recycled water is assessed and a reduction strategy formulated
2. Identify raw water pre treatment processes	2.1 The steps involved in water purification are documented and data on quality for supplied water is obtained 2.2 Water disinfection methods and equipment for a range of food processing operations are identified and evaluated
3. Apply efficient and sustainable water management principles to the food processing industry	3.1 Opportunities for reducing water usage in the food processing operation is identified 3.2 Sources and characteristics of waste water generated across the food processing operation are identified 3.3 Methods for treating and recycling water for re-use in food processing operation are identified 3.4 Opportunities to reduce the volume of waste water and improve treatment methods are identified 3.5 Procedures for future water management are reviewed and critical limits set

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to

- assess the suitability of water supplied from a range of sources, and water recycled within the food processing plant
- identify the water quality requirements for a range of food processing operations
- map the steps involved in water purification at municipal water treatment plants
- identify water disinfection methods, suitable for a range of food processing operations
- appraise suitable systems and equipment for water disinfection in the food processing industry
- identify the sources and characteristics of waste water generated across food processing operations
- identify methods for treating and recycling water and minimising potable water consumption
- identify legal requirements for water discharge.

Required knowledge includes:

Knowledge of:

- water quality requirements, including:
 - chemical specifications e.g. pH, Total Suspended Solids (TSS), Total Dissolved Solids (TDS), heavy metals
 - microbiological specifications eg. BOD, presence of Fecal coliform, bacteria, Cryptosporidium, Giardia
- water purification processes in general
- water disinfection methodologies and systems suitable for the food processing industry including chlorination, ozonation and UV irradiation
- waste water treatment (relevant to a food processing plant) including primary, secondary and tertiary waste water treatment stages
- waste stream characteristics and classification in relation to the food processing industry
- methods of reducing, reusing and recycling water in a food processing operation, e.g. implementation and routine monitoring of waste reduction practices, use of consumable, returnable, refillable or reusable packaging
- State legislation and local bylaws governing prescribed wastes
- legal requirements for water discharge
- regulations relating to the processing and disposal of food waste
- the major requirements contained in the environmental protection legislation, including State environmental regulatory certification procedures, permits and waste discharge agreements.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to implement and review water and waste procedures for a food processing operation.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to assess water quality for use in food processing, monitor water usage for a food processing operation, integrate water quality monitoring into process planning, and implement and review water management procedures in food processing.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers’ advice and operating procedures • methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of candidate conducting a range of tests and procedures • written and/or oral questioning to assess knowledge and understanding • completing workplace documentation • third party reports from experienced practitioner • case studies • field Reports.

Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.
-------------------------------------	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Legislation</p>	<p>Legislation refers to any relevant Commonwealth and State Acts of Parliament, Statutes and Regulations including legislation and regulations covering:</p> <ul style="list-style-type: none"> • the use of water for commercial and industrial use • environmental protection • waste generation and disposal • food standards and food safety • occupational health and safety.
<p>Policies and procedures</p>	<ul style="list-style-type: none"> • Codes of practice, e.g. Manual Handling and Small Wastewater Treatment Plants • Australian and international standards e.g. ISO14000.
<p>Water sources</p>	<p>Water sources may include:</p> <ul style="list-style-type: none"> • reticulated supply from water authorities • municipal treatment plants • bores • dams • rainwater tanks • recycled water.
<p>Water quality requirements</p>	<p>Water quality requirements for food processing operations may include chemical, microbiological, physical and radiological specifications.</p>
<p>Treatment and disposal methods</p>	<p>Treatment and disposal may include on site storage and disposal; dilution; specifying/controlling discharge rates; recycle and reuse options; on site pre-treatment.</p>
<p>Waste management documentation</p>	<p>Waste management documentation may include information on applicable trade waste laws or other requirements; complaint records; training records; process information, process operation log book; inspection, maintenance and calibration records; relevant contractor and supplier information; incident reports. Information on emergency preparedness and response, records of significant trade waste impacts; audit results; management reviews; trade waste charging policy; industrial trade waste generators register.</p>

Unit Sector(s)

Technical.

FDFST4020A Implement and review the processing of market milk and related products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to implement and review production standards and procedures for the processing of market milk and related products

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and food safety, or production management. The unit typically applies to staff with responsibility for maintaining product safety, quality and efficiency in food production in the dairy processing sector. This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Receive fresh milk and blend using standard industry data	<ul style="list-style-type: none">1.1 Receival and testing procedures for milk from farm are applied1.2 A safe working environment is provided for milk receival and testing1.3 Received milk is tested and data is recorded and stored1.4 Received milk is stored under correct conditions and adjusted or blended based on test data
2. Monitor the manufacture of market milk and related products to meet quality standards	<ul style="list-style-type: none">2.1 The specifications for the end product are determined2.2 A safe working environment is provided for the manufacture of product samples2.3 Resource requirements for the preparation and manufacture of market milk and related products are identified2.4 A production schedule to ensure all resources and requirements are available and meet company requirements is used2.5 Critical factors in the preparation and manufacture of market milk and related products are addressed2.6 Data requirements appropriate for food safety, quality and production standards are identified2.7 Data collection points consistent with equipment capabilities and data requirements are established2.8 Procedures to deal with non-conformance in relation to process and the final product are developed2.9 Market milk and related product manufacture is carried out and monitored
3. Report problems arising from the preparation and manufacture of market milk and related products	<ul style="list-style-type: none">3.1 Potential product defects and their causes, which may arise in the preparation and manufacture of market milk and related products, are identified3.2 System to identify defects in the preparation and manufacture of market milk and related products, and to apply adjustments to process/equipment is implemented and reviewed3.3 Problems are reported to designated person according to company policies and procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- implement handling and storage procedures for market milk and related products
- establish CCPs and critical limits for each step in production of market milk and related products
- monitor production of market milk and related products
- apply procedures to ensure the product is fit for further processing and meets regulatory, food safety and quality requirements
- overview the implementation of the HACCP plan
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge includes:

Knowledge of:

- the statutory compositional requirements for the different types of market milk and related products
- domestic and export markets for market milk and related products
- production systems used for the preparation and manufacture of market milk and related products
- formulation of market milk and related products
- role of major ingredients found in market milk and related products
- the purpose of each process, and processing sequence, used in the preparation and manufacture of market milk and related products
- principles of operation of equipment and accessories used in the preparation and manufacture of market milk and related products are determined
- output of each of the processes used in the preparation and manufacture of market milk and related products are identified
- production system requirements for the preparation and manufacture of each market milk and related products are determined
- the resource requirements for the preparation and manufacture of market milk and related products
- chemical and physical hazards which may affect milk

- procedures for milk storage, handling and preparation
- safe work procedures
- sanitation and hygiene procedures
- HACCP principles and critical limits in a HACCP program
- identification of CCPs and critical limits
- water and energy use and recycling in processing
- regulatory requirements associated with the processing of market milk and related products
- environmental impacts of the food processing operation

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to implement and review production standards and procedures for the processing of market milk and related products.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to: implement process control procedures and data collection to process milk and related products; carry out sensory evaluation and product testing; diagnose and report problems for manufacturing; and review the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • A report on a review of the production system.

Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.
-------------------------------------	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labeling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Safe work procedures	<p>Examples of specific task related procedures may include:</p> <ul style="list-style-type: none"> • handling of chemicals • use of PPE.
Materials and equipment	Food processing chemicals, Food processing equipment, fermenting vessels, centrifuge, heat exchangers, homogeniser, mixing vats, sanitary pumps, conveying belts, fillers and aseptic fillers.
Market milk and related products	Includes standardised milk, whole fresh milk, recombined milk, vitamised milk, irradiated milk, mineralised milk, reconstituted or rehydrated milk, skimmed milk, heat treated or UHT milk, flavoured milks.

Unit Sector(s)

Technical.

FDFST4021A Carry out sampling and testing of milk at receipt

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit describes the skills and knowledge required to carry out sampling and testing procedures for milk received off farm.

Application of the Unit

This unit applies to dairy processing personnel who have roles in product design, quality assurance and food safety, or production management. The unit typically applies to staff with responsibility for receiving and testing milk from the dairy farm as the first operation in market milk processing or the manufacturing of milk based products.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement and monitor personal hygiene standards	1.1 Personal hygiene meets the requirements of the food safety program for milk receival and handling 1.2 Risks to food safety are identified and reported 1.3 Clothing and footwear worn is appropriate for testing and handling milk and meets the requirements of the food safety program 1.4 Movement around the milk processing plant complies with the food safety program
2. Carry out standard tests to determine the blending and further processing requirements of milk	2.1 Implement procedures for receiving and handling milk 2.2 Requirements and procedures for milk testing are complied with 2.3 Sampling of milk is carried out as per sampling procedures 2.4 Milk testing equipment is prepared and operated 2.5 Data is recorded and stored in required format 2.6 Results are interpreted to determine that milk is within compositional and quality requirements
3. Respond to issues of contamination or other forms of non-conformance in the receival of fresh milk	3.1 Procedures for taking corrective action are identified 3.2 Corrective and preventative measures are implemented to prevent recurrence 3.3 Procedures are devised or revised to support control measures 3.4 Processes or conditions which could result in a breach of procedures are identified and corrective action is taken 3.5 Process changes are introduced and controlled so that quality assurance requirements are accomplished
4. Review sampling, handling and testing procedures for fresh milk	4.1 Product sampling procedures are identified 4.2 Post collection procedures are identified according to SOPs 4.3 Test results are reviewed and responded to in accordance with workplace requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- maintain hygiene in the milk processing environment
- carry out sampling of milk on receival according to procedures
- carry out standard tests on milk for plate counts, somatic cell counts, fat and protein levels, solids non fat, disk assay, rapid test for inhibitors and compositional analysis
- record the results of testing in standard formats
- implement procedures for standardising milk
- implement procedures for dealing with non compliance to farm milk quality standards including rejection.

Required knowledge

Ability to:

- the different types of market milk and related products
- proximate analysis profiles for milk from different commercial species of animals
- the properties of milk fats and spoilage reactions in milk fats
- the characteristics and importance in further processing of the two types of milk proteins
- the impact of nutrition and genetics on P/F ratios
- the mineral composition of milk and relationship between mineral and protein, fat and lactose levels
- the types of microorganisms present in fresh milk and their impact on milk storage and processing characteristics
- characteristics and food safety implications of antibiotic residues and mastitic milk
- nutrients and micronutrients levels in fresh milk as a source of human nutrition
- pathogenic organisms in fresh milk and processing and environmental controls
- the importance of trace antibiotics in milk in effecting market milk and milk for further processing
- the characteristics of mastitic milk and its impact on market milk and milk for further processing
- hygiene procedures for handling fresh milk
- sampling procedures
- raw milk quality tests
- interpretation of raw milk test results.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to carry out sampling and testing of milk at receival including: interpreting the results of milk testing, responding to issues with milk composition or quality, and reviewing the receival and testing process.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers’ advice and operating procedures • Milk testing equipment • A milk receival facility at a dairy processing plant or simulation • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • Third party report on sampling and testing milk in a dairy processing plant • A report on a review of milk receival for the effectiveness of hygiene, sampling and testing

	procedures.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
OHS requirements	<ul style="list-style-type: none"> • Legislation, regulations and Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements
Workplace requirements	<ul style="list-style-type: none"> • Enterprise QA policy, practices and procedures • Enterprise-specific procedures • SOPs • Task requirements • Work instructions.
Production system and product requirements	<ul style="list-style-type: none"> • These may include food safety, product quality, regulatory compliance, animal welfare (if required) and preventative maintenance.
Market milk and related products	Includes standardised milk, whole fresh milk, recombined milk, vitamised milk, irradiated milk, mineralised milk, reconstituted or rehydrated milk, skimmed milk, heat treated or Ultra Heat Treated (UHT) milk, flavoured milks.
Manufactured dairy products	These include condensed milk, cream and butter, milk powder, butter, cheese, dairy blends, yoghurt, anhydrous milk fat and milk products with amendments or additives.

Unit Sector(s)

Technical.

FDFST4022A Implement and review the preparation of milk for processing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to implement and review the standards and procedures for receiving and preparing milk for product manufacture.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and food safety, or production management. The unit typically applies to staff with responsibility for maintaining product safety, quality and efficiency in food production in the dairy processing sector. This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Receive fresh milk and blend using standard industry data	1.1 Receival and testing procedures for milk from farm are applied 1.2 A safe working environment is provided for milk receival and testing 1.3 Received milk is tested and data is recorded and stored 1.4 Received milk is stored under correct conditions and adjusted or blended based on test data
2. Implement procedures for separation, homogenisation and pasteurisation of received milk in preparation for further processing	2.1 The preferred sequence of activity to prepare the system for operation is implemented 2.2 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.3 Data collection points consistent with equipment capabilities and data requirements are documented 2.4 Procedures to deal with non-conformance in relation to process and the final product are implemented 2.5 Production system is set to operating specifications before and during preparation and testing of received milk 2.6 Process control system for the preparation of milk for further processing is implemented
3. Diagnose, rectify and/or report problems arising from the preparation of milk for manufacture	3.1 Product tests are interpreted according to enterprise procedures 3.2 System used to identify defects and abnormalities in delivered milk is implemented and monitored 3.3 Adjustments to process/equipment as identified are implemented. 3.4 Problems are recorded and reported according to company policies and procedures
4. Review production processes for preparing milk for further processing	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented 4.3 Food tests are undertaken to check product composition and compliance with further manufacturing requirements 4.4 Operating procedures are reviewed for food safety and quality 4.5 Safe work systems for processing are reviewed 4.6 Environmental impacts and energy efficiencies are reviewed for preparation of milk for processing

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- implement handling and storage procedures used to prevent spoilage of raw milk
- assess the impact of processing on milk
- establish CCPs and critical limits for each step in production of milk for processing
- carry out milk testing
- monitor production of milk for further processing
- overview the implementation of the HACCP plan
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations.
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge includes:

Knowledge of:

- the various components of milk
- the hazards associated with raw milk
- the various spoilage organisms associated with milk
- compositional requirements for a range of milk based products
- the testing and processing stages in preparing milk for further processing
- the risks to milk product quality from incorrect preparation and handling of fresh milk
- output of each of the processes used in the preparation of milk for further processing
- compositional requirements for milk prepared for further processing for a range of processed milk products
- principles of operation of equipment and accessories used in the preparation of milk for further processing
- critical factors in the testing and preparation of received milk for further processing into dairy products
- processes used in the preparation and manufacture of non-fermented dairy products
- processes used to prepare milk for further processing
- resource requirements for the preparation of milk for further processing
- potential product defects and their causes which may arise in the preparation of milk for further processing

- milk sampling and testing
- data requirements appropriate for food safety, quality and production standards
- manufacturing processes, including materials and equipment, involved in preparing delivered milk for further processing
- manufacturing processes used to produce specialised dairy products such as whey powders, caseinates, industrial butters and infant formulas
- milk handling and its impact on properties for further processing
- chemical and physical hazards which may affect milk
- procedures for milk storage, handling and preparation
- safe work procedures
- sanitation and hygiene procedures
- HACCP principles and critical limits in a HACCP program
- identification of CCPs and critical limits
- water and energy use and recycling in processing
- regulatory requirements associated with the preparation of milk for processing
- environmental impacts of the food processing operation

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to implement and review the processes associated with receiving and preparing milk for product manufacture. Milk is not homogenised in the manufacture of some cheeses and need not be included in evidence for assessment where this is the case.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to implement and review the processes associated with receiving and preparing milk for product manufacture including: implementing process control procedures and data collection to prepare milk for further processing; carrying out food testing of raw and processed milk; diagnosing and reporting problems for manufacturing of dairy product; and reviewing the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results..
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate conducting a range of processes and tests • Written and/or oral questioning to assess knowledge

	<p>and understanding</p> <ul style="list-style-type: none"> • A report on a review of the milk receival system
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements.
Manufactured dairy products	These include condensed milk, cream and butter, milk powder, butter, cheese, dairy blends, yoghurt, anhydrous milk fat and milk products with amendments or additives.
Materials used to manufacture milk products	Dairy products processing equipment to prepare milk for further processing may include fermenting vessels, butter and cream centrifuge, heat exchangers, homogenisers, aseptic fillers, mix tanks, autoclaves, vacuum evaporation and spray drying equipment.

Unit Sector(s)

Technical.

FDFST4030A Implement and review the processing of chocolate and sugar-panned products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for manufacture of chocolate and sugar-panned products.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the confectionery sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Unit sector	Technical
-------------	-----------

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the manufacture of chocolate and sugar-panned products	1.1 The statutory compositional requirements for the different types of chocolate and sugar-panned products is established 1.2 The required formulation of chocolate and sugar-panned products is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected. 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the preparation and manufacture of chocolate and sugar-panned products to ensure quality standards are met	2.1 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.2 Production system is set to operating specifications before and during production 2.3 Data requirements and collection points appropriate for food safety, quality and production standards are documented 2.4 Procedures to deal with non-conformance in relation to process and the final product are developed 2.5 Concentration and drying procedures are implemented and monitored 2.6 Process controls for chocolate and sugar-panned products are monitored
3. Diagnose, rectify and/or report problem arising from the manufacture of chocolate and sugar-panned products	3.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of product 3.2 Identified adjustments to inputs, process and equipment are implemented 3.3 Problems are reported to designated person according to company policies and procedures
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken and data generated for the product label 4.5 Operating procedures and the process control system are reviewed for food safety and quality 4.6 Safe work systems for processing of chocolate and sugar-panned products are reviewed 4.7 Environmental impacts and energy efficiencies are reviewed for processing of chocolate and sugar-panned products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret market specifications for chocolate and sugar-panned products
- plan production processes to manufacture chocolate and sugar-panned products
- monitor the output of each of the processes used in the preparation and manufacture of chocolate and sugar-panned products
- implement production systems for preparation and manufacture of chocolate and sugar-panned products
- recognise the organoleptic properties of different types of chocolate and sugar-panned products
- operate equipment and accessories used in the preparation and manufacture of chocolate and sugar-panned products.

Required knowledge includes:

Knowledge of:

- the types of chocolate and sugar panned products, their formulation, and the type of coating process used in their production
- the relevant properties of the various centres used in panned products, including melting point, moisture content, shape, size, surface finish and preparation
- crystallisation behaviour of fats, sugars and sugar substitute materials
- the effect of air flow, air temperature and air humidity on the drying/setting rates of coatings and the relationship to product characteristics
- polishing materials and methods and their application
- production systems used for the production of panned products including types of coating pans, methods of coating material addition and process air supply requirements
- the production system for the preparation and manufacture of chocolate and sugar-panned products including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials
- critical factors in the preparation and manufacture of chocolate and sugar-panned products
- resource requirements for the preparation and manufacture of chocolate and sugar-panned products
- potential product defects and their causes, which may arise in the preparation and manufacture of chocolate and sugar-panned products
- stages of production, CCPs and critical limits
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- safe systems of work.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to review the preparation and manufacture of chocolate and sugar-panned products based on product testing and sensory analysis</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to produce chocolate and sugar-panned products to specification including: implementing process control procedures and data collection; diagnosing and reporting problems for manufacturing; carrying out sensory evaluation and product testing; and reviewing the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate manufacturing samples and conducting a range of tests and procedures • Written and/or oral questioning to assess knowledge and understanding

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Completing workplace documentation • Third party reports from experienced practitioner • Case studies • Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements
Chocolate and sugar-panned products	These include all products produced by a panning process including panned nuts, moulded chocolate balls and discs, gum, jelly beans and nougat balls

Unit Sector(s)

Unit sector	Technical
-------------	-----------

FDFST4031A Implement and review the processing of aerated confectioneries

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for preparation and manufacture of aerated confectioneries.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the confectionery sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the manufacture of aerated confectioneries.	1.1 The statutory compositional requirements for the different types of aerated confectioneries is established 1.2 The required formulation of aerated confectioneries is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the manufacture of aerated confectioneries to ensure quality standards are met	2.1 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.2 Production system is set to operating specifications before and during production 2.3 Data requirements and collection points appropriate for food safety, quality and production standards are interpreted or documented 2.4 Procedures to deal with non-conformance in relation to process and the final product are developed 2.5 Concentration and drying procedures are implemented and monitored 2.6 Process control systems are implemented and monitored
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of aerated confectioneries	3.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of food 3.2 Identified adjustments to inputs, process & equipment are implemented 3.3 Problems are reported to designated person according to company policies and procedures
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken and data generated for the product label 4.5 Operating procedures and the process control system are reviewed 4.6 Safe work systems for processing of aerated confectioneries are reviewed 4.7 Environmental impacts and energy efficiencies are reviewed for processing of aerated confectioneries

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- interpret market specifications for aerated confectioneries
- select the formulation, method of manufacture, method of forming and packaging of aerated confectioneries
- monitor the output of each of the processes used in the preparation and manufacture of aerated confectioneries
- carry out processes to aerate different confectionery masses and form these masses to maintain the desired degree of aeration
- operate each process used in the preparation and manufacture of aerated confectioneries
- operate equipment and accessories for the preparation and manufacture of aerated confectioneries
- identify defects during production and of final products.

Required knowledge

Knowledge of:

- the range of aerated confectioneries including chocolate, fat based fillings, nougats, jelly foams, marshmallows, high boils, and brittles
- the formulation, method of manufacture, method of forming and packaging of aerated confectioneries
- the range of aerated confectioneries including chocolate, fat based fillings, nougats, jelly foams, marshmallows, high boils, and brittles
- the processes used to aerate different confectionery masses and form these masses to maintain the desired degree of aeration.
- identify the role of the major ingredients found in aerated confectioneries
- the role, properties and use of different aerating agents
- critical aspects of product aeration including product viscosity, bubble size, product graining or crystallising
- production systems used for the preparation and manufacture of aerated confectioneries
- preparation and manufacture of aerated confectioneries including packaging, storage and distribution
- different types and formulation of aerated confectioneries
- potential product defects and their causes, which may arise in the preparation and manufacture of aerated confectioneries
- stages of production, CCPs and critical limits
- packaging procedures
- resource requirements for the preparation and manufacture of aerated confectioneries
- quality and continuous improvement processes
- sensory analysis techniques

- safe systems of work.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to review the preparation and manufacture of aerated confectionery products, including product testing</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to manufacture aerated confectioneries to specification including: implementing process control procedures and data collection; diagnosing and reporting problems for manufacturing; carrying out sensory evaluation and product testing; and reviewing the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate carrying out product development and conducting a range of tests and procedures • Written and/or oral questioning to assess knowledge and understanding

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Completing workplace documentation • Third party reports from experienced practitioner • Case studies • Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements
Aerated confectioneries	These include all confectionery products where the texture and/or appearance has been altered by the inclusion of small bubbles of air or other gases. This could include such diverse products as marshmallow where substantial amounts of air are included to give a light texture through to high boil masses where air is pulled into a viscous mass to change the appearance of the product. Bubble formation could also be by the heat

RANGE STATEMENT	
	action on, for example, sodium bicarbonate, as in honeycomb confectionery. Can be consumed as is or included as a centre for, say, chocolate enrobing, moulding or panning.

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

FDFST4032A Implement and review the production of gums and jellies

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for preparation and manufacture of gums and jellies.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the confectionery sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the manufacture of gums and jellies.	1.1 The statutory compositional requirements for the different types of gums and jellies is established 1.2 The required formulation of gums and jellies is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the manufacture of gums and jellies to ensure quality standards are met.	2.1 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.2 Production system is set to operating specifications before and during production 2.3 Data requirements and collection points appropriate for food safety, quality and production standards are interpreted or documented 2.4 Procedures to deal with non-conformance in relation to process and the final product are developed 2.5 Cooking and molding procedures are implemented and monitored 2.6 Process control systems are implemented and monitored confectioneries
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of gums and jellies	3.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of food 3.2 Identified adjustments to inputs, process & equipment are implemented 3.3 Problems are reported to designated person according to company policies and procedures
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken and data generated for the product label 4.5 Operating procedures and the process control system are reviewed 4.6 Safe work systems for processing of gums and jellies are reviewed 4.7 Environmental impacts and energy efficiencies are reviewed for processing of gums and jellies

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret market specifications for gums and jellies
- plan the production processes related to gums and jellies
- monitor the output of each of the processes used in the preparation and manufacture of gums and jellies
- finish gelatinised products to prevent sticking
- check product against market specifications
- operate equipment and accessories for the preparation and manufacture of gums and jellies
- identify defects during production and for final products

Required knowledge includes:

Knowledge of:

- the formulations, methods of manufacture, methods of forming and packaging of gums and jellies
- the range of gelatinised products including "gummi" and other types of starch moulded products, licorice and Turkish delight, and their formulations
- processes used to gelatinise different confectionery masses and form these masses to maintain the desired product shape
- the role of the major ingredients found in gums and jellies
- the role, properties and use of different gelatinising agents such as gelatine, starches, pectins and agar
- critical factors in the preparation and manufacture of gums and jellies
- the production system for the preparation and manufacture of gums and jellies including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials
- potential product defects and their causes, which may arise in the preparation and manufacture of gums and jellies
- the interrelationships between suppliers of products and internal/external customers
- stages of production, CCPs and critical limits
- resource requirements for the preparation and manufacture of gums and jellies
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- safe systems of work.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to manufacture gums and jellies to specifications including: implementing process control procedures and data collection; diagnosing and reporting problems for manufacturing; carrying out sensory evaluation and product testing; and reviewing the production system for food safety and quality and environmental impact.
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate carrying out product development and conducting a range of tests and procedures for gums and jellies • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Case studies • Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
OHS requirements	<p>legislation, regulations, Codes of practice safety data sheets (SDSs)</p> <p>enterprise and process specific occupational health and safety requirements</p>
Gums and jellies	Gums and jellies include all confectionery products that include a gelatinising agent such as gelatine, starches, pectins and agar etc to give a characteristic gelled texture to the product. Can be consumed as is or included as a centre for processes such as chocolate enrobing, moulding or panning.

Unit Sector(s)

Unit sector	Technical
-------------	-----------

FDFST4033A Implement and review the production of chocolate products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for preparation and manufacture of chocolate products. This unit does not cover the manufacture of chocolate, which is covered by the unit of competency FDFST4019A Implement and review the manufacturing of chocolate.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the confectionery sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<ul style="list-style-type: none"> • 1. Prepare for the manufacture of chocolate products 	<ul style="list-style-type: none"> • 1.1 The statutory compositional requirements for the different types of chocolate products is established • 1.2 The required formulation and design of chocolate products is selected • 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected • 1.4 Equipment is prepared and safe operating procedures accessed for its operation
<ul style="list-style-type: none"> • 2. Monitor the manufacture of chocolate products to ensure quality standards are met 	<ul style="list-style-type: none"> • 2.1 Bulk chocolate is sourced to meet the product specifications • 2.2 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements • 2.3 Production system is set to operating specifications before and during production • 2.4 Data requirements and collection points appropriate for food safety, quality and production standards are identified • 2.5 Procedures to deal with non-conformance in relation to process and the final product are developed • 2.6 Process control systems are implemented and monitored confectioneries
<ul style="list-style-type: none"> • 3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of chocolate products 	<ul style="list-style-type: none"> • 3.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of chocolate products • 3.2 Identified adjustments to inputs, process & equipment are implemented • 3.3 Problems are reported to designated person according to company policies and procedures
<ul style="list-style-type: none"> • 4. Review production processes 	<ul style="list-style-type: none"> • 4.1 The critical control points (CCPs) and critical limits for product safety are reviewed • 4.2 A sampling plan is developed and implemented • 4.3 Sensory analysis is conducted and analysed • 4.4 Food tests are undertaken and data generated for the product label • 4.5 Operating procedures and the process control system are reviewed • 4.6 Safe work systems for processing of chocolate products are reviewed • 4.7 Environmental impacts and energy efficiencies are reviewed for processing of chocolate products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret market specifications for confectionery products
- carry out the production processes related to chocolate products
- monitor the output of each of the processes used in the preparation and manufacture of chocolate products
- manage production systems for preparation and manufacture of chocolate products
- check product against market specifications for chocolate products
- operate equipment and accessories used for the preparation and manufacture of chocolate products
- check product against market specifications.

Required knowledge includes:

Knowledge of:

- types of chocolate and compound chocolate and the ingredients used to manufacture each
- critical factors in the preparation and manufacture of chocolate products
- forming processes used in the manufacture of chocolate products such as enrobing, moulding (shell, one-shot, pocket, etc), hollow goods moulding ("spinning"), drop depositing and cluster depositing
- the role of tempering especially, with regard to chocolate, and its relationship to key product attributes such as shine, bloom formation, snap, hardness and shrinkage.
- the rheological properties (plastic viscosity and yield value) of liquid chocolate and their relationship to the forming process use
- the role of the major ingredients found in chocolate products
- the production system for the preparation and manufacture of chocolate products including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials
- cooling processes used for chocolate and compound chocolate identification of defects during production and of final products stages of production, CCPs and critical limits
- resource requirements for the preparation and manufacture of chocolate products
- product defects and their causes, which may arise in the preparation and manufacture of chocolate products
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- safe systems of work.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Critical aspects of assessment must include evidence of the ability to prepare and manufacture chocolate products including: implementing process control procedures and data collection; diagnosing and reporting problems; carrying out sensory evaluation and product testing; and reviewing the production system for food safety and quality and environmental impact.</p>
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers’ advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate carrying out product development and conducting a range of tests and procedures • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner • Case studies

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements
Chocolate products	Chocolate products include all confectionery products that include chocolate or compound chocolate in a recognisable solid form including moulded bars, blocks or shapes, moulded and enrobed filled chocolate pieces, hollow goods such as eggs or seasonal figures, and deposited items such as drops or nut clusters. Chocolate products can be consumed as is or included as a centre for further processes such as sugar panning.

Unit Sector(s)

Unit sector	Technical
-------------	-----------

FDFST4034A Implement and review the processing of chocolate

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for manufacture of chocolate, including product testing and sensory analysis
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the confectionery sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the manufacturing of chocolate	1.1 The required formulation of chocolate is selected 1.2 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected 1.3 Equipment is prepared and safe operating procedures accessed for its operation
2. Carry out preparation and manufacture of chocolate	2.1 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.2 Production system is set to operating specifications before and during production 2.3 Data requirements appropriate for food safety, quality and production standards are documented 2.4 Data collection points consistent with equipment capabilities and data requirements are identified 2.5 Procedures to deal with non-conformance in relation to process and the final product are developed 2.6 Process control system is implemented and monitored
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of chocolate	3.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of chocolate 3.2 Identified adjustments to inputs, process & equipment are carried out as required 3.3 A system to identify defects in the preparation and manufacture of chocolate is implemented 3.4 Adjustments to process and equipment, as identified, are made 3.5 Problems are reported to designated person according to company policies and procedures
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented for 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken and data generated for the product label 4.5 Operating procedures and the process control system are reviewed for food safety and quality 4.6 Safe work systems for processing of chocolate are reviewed 4.7 Environmental impacts and energy efficiencies are reviewed for processing of chocolate

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- carry out production processes for the manufacture of chocolate including mixing, refining, conching and storage
- plan the production processes related to chocolate manufacture
- monitor the output of each of the processes used in the preparation and manufacture of chocolate
- monitor process controls for preparation and manufacture of chocolate
- recognise the organoleptic properties of different types of chocolate
- compare chocolate to market specifications for high and low boil confectionery
- operate equipment and accessories for the preparation and manufacture of chocolate.

Required knowledge includes:

Knowledge of:

- critical factors in the preparation and manufacture of chocolate
- types of chocolate and compound chocolate and the ingredients used to manufacture each type
- crystallisation behaviour of fats, especially cocoa butter
- rheological properties of chocolate and compound chocolate as a liquid and the role of emulsifiers in these
- the role of particle size and particle size distribution on chocolate properties
- preparation and manufacture of chocolate through to packaging, storage and distribution
- the production system for the preparation and manufacture of chocolate including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials
- resource requirements for the preparation and manufacture of chocolate
- identification of defects during production and of final products
- the statutory compositional requirements for the different types of chocolate
- stages of production, CCPs and critical limits
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- safe systems of work.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to review the preparation and manufacture of chocolate including product testing and sensory analysis.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to manufacture chocolate including implementing process control procedures and data collection diagnosing and reporting problems for manufacturing, carrying out sensory evaluation and product testing, and reviewing the chocolate production system for food safety and quality and environmental impact.
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate manufacturing samples and conducting a range of tests and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner • Case studies • Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements
Chocolate	This includes all chocolates and compound chocolates in liquid and solid form for further processing or industrial sales.

Unit Sector(s)

Unit sector	Technical
-------------	-----------

FDFST4035A Implement and review the processing of high and low boil confectionery

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for manufacture of high and low boil confectionery.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the confectionery sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Carry out the preparation and manufacture of high and low boil confectionery to meet quality standards	<ul style="list-style-type: none">1.1 Equipment and accessories used in the preparation and manufacture of high and low boil confectionery are prepared1.2 Ingredients are assembled and prepared and product formulations checked1.3 Standard Operating Procedures are put in place1.4 A production schedule is implemented to ensure all resources and requirements are available and meet company standards1.5 Production system is set to operating specifications before and during production1.6 Data requirements appropriate for food safety, quality and production standards are interpreted1.7 Data collection points consistent with equipment capabilities and data requirements are determined1.8 Procedures to deal with non-conformance in relation to process and the final product are developed1.9 Process control system is implemented and monitored
2. Diagnose, rectify and/or report problem arising from the preparation and manufacture of high and low boil confectionery	<ul style="list-style-type: none">2.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of confectionery2.2 Identified adjustments to inputs, process & equipment are implemented2.3 Adjustments to process/equipment as identified are implemented2.4 Problems are reported to designated person according to company policies and procedures
3. Review production processes	<ul style="list-style-type: none">3.1 The critical control points (CCPs) and critical limits for product safety are reviewed3.2 A sampling plan is developed and implemented3.3 Sensory analysis is conducted and analysed3.4 Food tests are undertaken to check product composition and compliance with label information3.5 Operating procedures and the process control system are reviewed for food safety and quality3.6 Safe work systems for processing of high and low boil confectionery are reviewed3.7 Environmental impacts and energy efficiencies are reviewed for processing of high and low boil confectionery

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- interpret market specifications for high and low boil confectionery
- select the formulation, method of manufacture, method of forming and packaging of high and low boil confectionery
- implement a production schedule to ensure all resources and requirements are available and meet company requirements
- set the production system to operating specifications before and during production
- implement the production system for the preparation and manufacture of high and low boil confectionery
- identify the potential product defects and their causes which may arise in the preparation and manufacture of high and low boil confectionery
- determine and implement a system used to identify defects in the preparation and manufacture of high and low boil confectionery
- implement adjustments to process/equipment as identified
- report problems to designated person according to company policies and procedures.

Required knowledge includes:

Knowledge of:

- different types of high and low boil confectionery
- formulation of high and low boil confectionery
- purpose of each process used in the preparation and manufacture of high and low boil confectionery
- relationships between the processes used in the preparation and manufacture of high and low boil confectionery
- outputs of each of the processes used in the preparation and manufacture of high and low boil confectionery
- potential product defects and their causes which may arise in the preparation and manufacture of high and low boil confectionery
- the interrelationships between suppliers of products and internal/external customers
- critical factors in the preparation and manufacture of high and low boil confectionery
- solubility and crystallisation properties of ingredients used and their relationship to texture
- relationship of the boiling point of a confectionery syrup to its soluble solids content
- the relationship of pressure and vacuum to the boiling point of a confectionery syrup of a specific soluble solids content and the uses made in production of this relationship
- the concept of equilibrium relative humidity (ERH) or water activity (A_w) of a confectionery product
- resource requirements for the preparation and manufacture of high and low boil confectionery

- testing procedures for raw materials through to manufactured product
- stages of production, CCPs and critical limits
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques and analysis
- safe systems of work.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to review the production of high and low boil confectionery through monitoring inputs and processes
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to produce high and low boil confectionery including; implementing process control procedures and data collection, diagnosing and reporting problems for manufacturing, carrying out sensory evaluation and product testing, and reviewing the production system for food safety and quality and environmental impact.
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Demonstration of product development • Observation of candidate conducting a range of processes and tests • Written and/or oral questioning to assess knowledge and understanding • Analysis of samples produced by the candidate

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • A report on a review of the production system
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements
High and low boil confectionery	Includes sugar and "sugar free" boiled sweets, drops, brittles, toffees, jellies, caramels, fudges, nougats, pastes, creams and fondants. Can be consumed as is or included as a centre for, say, chocolate enrobing, moulding or panning.
Major ingredients	May include sugar, glucose syrups, "sugar free" analogues of these, fats, and milk products
Minor ingredients	May include colouring and flavouring agents, buffers, intense sweeteners

Unit Sector(s)

Unit sector	Technical
-------------	-----------

FDFST4036A Implement and review the processing of confectionery products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for the preparation and manufacture of confectionery products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the confectionery sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
----------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the manufacture of confectionery products	1.1 The statutory compositional requirements for the different types of confectionery products is established 1.2 The required formulation of confectionery products is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the manufacture of confectionery products to ensure quality standards are met	2.1 Production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.2 Production system is set to operating specifications before and during production 2.3 Concentration and drying procedures are implemented and monitored 2.4 Data requirements appropriate for food safety, quality and production standards are identified 2.5 Data collection points consistent with equipment capabilities and data requirements are identified 2.6 Procedures to deal with non-conformance in relation to process and the final product are developed 2.7 Process control system is implemented and monitored
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of confectionery products	3.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of food 3.2 Identified adjustments to inputs, process & equipment are implemented 3.3 Problems are reported to designated person according to company policies and procedures
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken and data generated for the product label 4.5 Operating procedures and the process control systems are reviewed for food safety and quality 4.6 Safe work systems for processing of confectionery products are reviewed 4.7 Environmental impacts and energy efficiencies are reviewed for processing of confectionery products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret market specifications for confectionery products
- plan the production processes related to confectionery products
- monitor the output of each of the processes used in the preparation and manufacture of confectionery products
- manage production systems for preparation and manufacture of confectionery products
- check product against market specifications for confectionery
- manage the processes used in the preparation and manufacture of confectionery products
- operate equipment and accessories used in the preparation and manufacture of confectionery products.

Required knowledge includes:

Knowledge of:

- the range of confectionery products including chocolate and compound chocolate confectionery, liquorice (both straps and all sorts), sugar confectionery types, "sugar free" confectionery types, gum based types and panned product types
- production systems used for the preparation, manufacture, forming and packaging of the range of confectionery products described above
- the production system for the preparation and manufacture of confectionery products including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials
- different formulations for confectionery products
- the role of the major ingredients found in confectionery products
- preparation and manufacture of extruded products including product preparation, cooking and processing, extrusion, packaging, and storage and distribution
- critical factors in the preparation and manufacture of confectionery products
- resource requirements for the preparation and manufacture of confectionery products
- the interrelationships between suppliers of products and internal/external customers
- identification of defects during production and of final products
- stages of production, CCPs and critical limits
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- safe systems of work.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to review the preparation and manufacture of confectionery products based on product testing</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to produce confectionery products including implementing process control procedures and data collection, diagnosing and reporting problems in manufacturing, carrying out sensory evaluation and product testing, and reviewing the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Demonstration of product development • Observation of candidate conducting a range of tests and procedures including sensory analysis • Written and/or oral questioning to assess knowledge and understanding

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Completing workplace documentation • Third party reports from experienced practitioner • Case studies • Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements
Confectionery products	These may include the range of confectionery products including chocolate and compound chocolate confectionery, sugar confectionery types, "sugar free" confectionery types, liquorice, gum based types, extruded products and panned product types.

Unit Sector(s)

Unit sector	Technical
-------------	-----------

FDFST4040A Identify & implement product safety and quality for chilled or frozen poultry product manufacturing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify and monitor the production processes for chilled or frozen poultry product.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency of chilled or frozen poultry products.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Check the chilled or frozen poultry product preparation and processing areas and equipment	<ul style="list-style-type: none">1.1 Procedures for pre-operational equipment checks are identified and checked for accordance with workplace policies and procedures, and manufacturer's instructions1.2 Regulatory requirements and safe work practices and safety equipment are checked1.3 Pre-operational checks and procedures are conducted or supervised and risks, contamination or variations reported in accordance with workplace policies and procedures, and regulatory requirements are monitored
2. Monitor the production of chilled or frozen poultry products	<ul style="list-style-type: none">2.1 Production processes from slaughter to product presentation for packaging are sourced from procedures2.2 Product quality and food safety hazards and procedures are implemented for the facility and for each stage of the production process2.3 Handling requirements for ingredients to prevent contamination and to ensure customer and production requirements, quality and safety are monitored2.4 Operating procedures for processing equipment are checked for consistency with manufacturer's specifications and regulatory and enterprise requirements2.5 Relevant processing area hygiene and sanitation requirements are monitored as specified in workplace procedures and regulatory requirements2.6 The details of cuts to meet customer requirements are confirmed2.7 Production system and equipment for the preparation and manufacture of chilled or frozen poultry products is monitored2.8 Cleaning regime is monitored to ensure hygiene and safe work area requirements are maintained
3. Implement packaging and chilling of poultry product	<ul style="list-style-type: none">3.1 The details of packaging to meet customer and regulatory requirements are confirmed3.2 Chilling requirements are monitored to meet food safety standards from processing to retailing3.3 Chilling processes for food preservation are applied and monitored3.4 Sampling and testing procedures for physical, biochemical and microbiological changes to frozen or chilled product are implemented and monitored
4. Diagnose, rectify and/or report problems arising from the	<ul style="list-style-type: none">4.1 Sampling and testing to identify defects in the preparation and manufacture of chilled or frozen poultry products are implemented

ELEMENT	PERFORMANCE CRITERIA
preparation and manufacture of chilled poultry products	4.2 Required adjustments to process/equipment are identified and implemented 4.3 Problems are reported to designated persons according to company policies and procedures
5. Review production processes	5.1 The critical control points (CCPs) and critical limits for product safety are reviewed 5.2 The sampling and food testing plans are reviewed 5.3 Operating procedures are reviewed for food safety and quality 5.4 Safe work systems for processing of chilled poultry products are reviewed 5.5 Environmental impacts and energy efficiencies are reviewed for processing of chilled poultry products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- document risk assessments for physical hazards for chilled or frozen poultry products
- document CCPs and critical limits in the manufacture of chilled or frozen poultry products
- explain the impact of critical limits in a HACCP program for chilled or frozen poultry products
- implement a HACCP plan for the production of chilled or frozen poultry products
- monitor production of chilled or frozen poultry products to ensure compliance with workplace and regulatory requirements
- recognise and respond to non compliant product
- propose and implement solutions to a range of production problems
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data.

Required knowledge includes:

Knowledge of:

- types of micro-organisms causing food poisoning and spoilage
- bacterial, chemical and physical food safety hazards
- the steps in the slaughter of poultry
- the range of chilled or frozen poultry products
- processes involved in manufacturing chilled or frozen poultry products
- hazards to the safe and hygienic processing of poultry
- microbiological criteria in raw poultry products production and microbiological limits, particularly the following significant microbial pathogens: enterohaemorrhagic *Escherichia coli*, *Salmonella*, enterotoxin of *Staphylococcus aureus* and *Listeria monocytogenes*, *Campylobacter sp*
- the significance of *Salmonella sofia* compared to *Salmonella typhimurium* as food safety hazards
- the techniques involved in chilling and freezing poultry meat
- HACCP principles and ensuring product is fit for human consumption and meets regulatory and quality requirements
- procedures for raw materials storage, handling and preparation
- safe food handling procedures
- chilling and freezing procedures
- storage requirements for processed product

- the impact of the raw material on product quality and food safety
- recall procedures including notification of appropriate authorities.
- OH&S, workplace and regulatory requirements and safe work procedures
- water and energy use and recycling in processing
- packaging technologies and procedures
- food sampling and testing including sensory analysis techniques
- environmental impacts of the food processing operation.
-

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to in terms of processing efficiency, quality of product, food safety, workplace safety and environmental impact.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to implement and review the manufacturing processes for chilled and frozen poultry product including: reviewing the CCPs and critical limits in the food safety plan; monitoring commercial processing techniques; diagnosing and reporting problems for manufacturing of chilled and frozen poultry products; and reviewing the production system for food safety and quality and environmental impact.
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Tests used to report relevant product/process information and recorded results
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Analysis of product and process under the candidate's supervision • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • A report on review of the production system
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labeling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.</p>
Policies and procedures	<p>Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.</p>
Safe work procedures	<p>Examples of specific task related procedures may include:</p> <ul style="list-style-type: none"> • handling of chemicals • use of PPE
Chilled poultry products	<p>These may include non cooked whole carcasses and any portions of chicken carcase or deboned product, including seasoned or marinated product. This unit does not cover the processing of cooked poultry products.</p>
Chilling techniques and equipment	<ul style="list-style-type: none"> • immersing in ambient running water • placing in cool rooms • showering with ambient water • use of intensive coolers • washing in water or brine.
OH&S requirements	<ul style="list-style-type: none"> • Enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coat and apron • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh apron

RANGE STATEMENT	
	<ul style="list-style-type: none">• protective boot covers• protective hand and arm covering• protective head and hair covering• uniforms• waterproof clothing• work, safety or waterproof footwear

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

FDFST4041A Identify and implement product safety and quality for cooked poultry product manufacturing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to review the quality, safety and operational procedures to manufacture cooked poultry products
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in cooked poultry products.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
----------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Check the cooked poultry product preparation and processing areas and equipment	<ul style="list-style-type: none">1.1 Procedures for pre-operational equipment checks are checked for accordance with workplace policies and procedures, and manufacturer's instructions1.2 Regulatory requirements and safe work practices and safety equipment are implemented1.3 Pre-operational checks and procedures are conducted or supervised and1.4 Risk of contamination or variations in product quality are reported in accordance with workplace policies and procedures1.5 Regulatory requirements for the operation are monitored1.6 Physical hazards which may affect cooked poultry products are recorded1.7 Optimum methods for physical hazard risk reduction are implemented
2. Monitor the preparation of ingredients, and processing equipment and areas	<ul style="list-style-type: none">2.1 Ingredients are sourced by type, quality and safety criteria, according to product specifications2.2 Types of chicken meat, by-product, stock, additive, binder and spices are sourced according to the formulation specifications and regulatory requirements2.3 Handling requirements for ingredients to prevent contamination and to ensure customer and production requirements, quality and safety are monitored2.4 Processing equipment is monitored and operating procedures explained to operators according to manufacturer's and workplace specifications2.5 Relevant processing area hygiene and sanitation requirements are monitored as specified in workplace procedures and regulatory requirements2.6 Production system and equipment for the preparation and manufacture of cooked poultry products are monitored2.7 Procedures for pre-operational equipment checks are applied in accordance with workplace policies and procedures, and manufacturer's instructions2.8 Cleaning regime is monitored to ensure hygiene and safe work area requirements are maintained
3. Monitor the production of cooked poultry and further processed products	<ul style="list-style-type: none">3.1 Relevant time, temperature and humidity requirements for cooking and packaging are monitored in accordance with product specifications, regulatory requirements and enterprise guidelines3.2 Relevant consistency, appearance, texture and monitoring

ELEMENT

PERFORMANCE CRITERIA

	requirements are monitored in accordance with product specifications and regulatory requirements
	3.3 Product sampling and testing and sensory analysis regime is monitored to ensure conformance with regulatory and enterprise requirements
	3.4 Procedures for rejection, reprocessing and/or recall for products which do not meet specifications or hygiene and sanitation requirements are implemented and reviewed against regulatory requirements and industry guidelines
	3.5 Relevant processing area hygiene and sanitation requirements are monitored as specified in workplace procedures and regulatory requirements
4. Overview the implementation of the HACCP plan for the production of cooked poultry products	4.1 Critical control points (CCPs) and control points for prevention and control of bacterial contamination (e.g. process controls and systems) are implemented
	4.2 Control methods to prevent microbiological contamination are explained to workers and implemented
	4.3 Monitoring processes are implemented for critical limits for CCPs
	4.4 Validation requirements for critical limits of HACCP programs are carried out
	4.5 Documented procedures are implemented which ensure any CCPs which are out of control are brought back into control and affected product is suitably handled
	4.6 Documented procedures are implemented to ensure the whole HACCP system is regularly audited and verified as working effectively
	4.7 All documents and records required for the system are kept available, up-to-date and in use
5. Review production processes	5.1 Product sampling and testing and sensory analysis are conducted and analysed
	5.2 Product formulations and operating procedures are reviewed
	5.3 Safe work systems for processing of cooked poultry products are reviewed
	5.4 Environmental impacts and energy efficiencies are reviewed for processing of cooked poultry products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- monitor production of cooked poultry products
- apply procedures to ensure the product is fit for human consumption and meets regulatory, food safety and quality requirements
- overview the implementation of the HACCP plan for the production of cooked poultry products
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge includes:

Knowledge of:

- the steps in the cooking of poultry
- the range of types of chilled cooked poultry products and their processing stages
- types of micro-organisms and bacteria causing food poisoning
- food poisoning and food spoilage (shelf life) effects of bacterial contamination
- sources of bacterial contamination for both 'ready to heat' and 'ready to eat' chicken products
- microbial hazards for 'par cooked' further processed poultry products
- growth characteristics and requirements of relevant bacteria species
- microbiological criteria in cooked poultry products production and microbiological limits, particularly the following significant microbial pathogens: enterohaemorrhagic *Escherichia coli*, *Salmonella*, enterotoxin of *Staphylococcus aureus* and *Listeria monocytogenes*
- chemical hazards which may affect cooked poultry products
- effects or impact of physical hazards on cooked poultry products
- procedures for raw materials storage, handling and preparation
- safe food handling procedures
- the impact of the raw material on product quality and food safety
- physical food safety hazards
- safe work procedures
- sanitation and hygiene procedures

- HACCP principles and critical limits in a HACCP program for cooked poultry products
- identification of CCPs and critical limits
- water and energy use and recycling in processing
- packaging technologies and procedures
- sensory analysis
- food sampling and testing
- storage requirements for processed product
- regulatory requirements associated with the production of cooked poultry products
- environmental impacts of the food processing operation.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to review the manufacturing processes for cooked poultry product in terms of processing efficiency, quality of product, food safety, workplace safety and environmental impact.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to supervise cooked poultry manufacturing processes including: reviewing the CCPs and critical limits in the food safety plan for cooked poultry products; monitoring commercial processing techniques to produce cooked poultry products; diagnosing and reporting problems for manufacturing of cooked poultry products; carrying out sensory evaluation and product testing; and reviewing the production system for food safety and quality and environmental impact
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data, analysing data and compiling into a report • Laboratory facilities or reports to assess food microbiology and chemistry
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Analysis of product and process under the candidate's supervision • Report on a review of a manufacturing process for

EVIDENCE GUIDE	
	<p>cooked poultry products</p> <ul style="list-style-type: none"> • Observation of candidate collecting and analysing data • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner • Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labeling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Safe work procedures	<p>Examples of specific task related procedures may include:</p> <ul style="list-style-type: none"> • handling of chemicals • use of PPE
Physical hazards	These include any hard objects that can contaminate product including metal shavings, packaging, clothing or jewellery. Physical hazards also include safety hazards for operators and other staff such as steam, hot surfaces,

RANGE STATEMENT	
	working with fats and oils, noise, operating equipment and manual handling.
Cooked poultry products	These may be sold as 'ready to heat', 'ready to eat', and par cooked products. The products may include bone-in/ bone-out natural portions, formed products or filled products.
Retailing systems for poultry product	These may include retail, food service and quick service restaurants (QSRs).
Ingredients	May include sauces and fillings, spices, herbs, fruit or vegetables, water, milk product, noodles, pasta, nuts, mushrooms or breads
Micro-organisms	<ul style="list-style-type: none"> • bacteria • mould • virus • yeast.
Workplace requirements	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • Quality Assurance requirements • Standard Operating Procedures • the ability to perform the task to production requirements • work instructions.
OH&S	<ul style="list-style-type: none"> • Enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective equipment (PPE) which may include: <ul style="list-style-type: none"> • coat and apron • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh apron • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing

RANGE STATEMENT	
	<ul style="list-style-type: none">• work, safety or waterproof footwear• requirements set out in standards, codes of practice etc.

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Custom Content Section

Not applicable.

FDFST4042A Identify and implement product safety and quality for egg based product manufacturing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify and implement safety and quality procedures for egg based product manufacturing.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in egg based products.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor the preparation of ingredients, and the processing equipment and areas	<ul style="list-style-type: none">1.1 Ingredients are identified by type, quality and safety according to product specifications1.2 Ingredients are sourced and prepared according to the formulation specifications and regulatory requirements1.3 Handling requirements for ingredients to prevent food safety hazards are monitored to ensure product quality and safety1.4 Relevant processing equipment is identified and operating procedures checked for consistency with manufacturer's specifications and regulatory and enterprise requirements1.5 Pre-operational checks and procedures are conducted or supervised and risks, contamination or variations reported in accordance with workplace policies and procedures, and regulatory requirements are monitored1.6 Cleaning regime is identified and monitored to ensure hygiene and safe work area requirements are maintained
2. Monitor the production of egg based food products to meet quality standards	<ul style="list-style-type: none">2.1 Critical factors in the preparation and production of egg based food products are identified2.2 Resource requirements for the preparations and production of egg based food products are established2.3 A production schedule to ensure all resources and requirements are available and meet company requirements is used2.4 The production system is set to the required operating specifications before and during production and verified2.5 The production system for egg based food products, including cooking or steaming, is monitored2.6 Pasteurisation of egg product is carried out according to procedures and Food Standards Code2.7 Chilling or freezing technologies are used to set and store product
3. Diagnose, rectify and/or report problems arising from the preparation and production of egg based food products	<ul style="list-style-type: none">3.1 Procedures are checked for coverage of potential problems arising from the preparation and production of egg based food products3.2 Methods used to identify defects are determined3.3 A system to identify defects in the preparation and production of egg based food products is selected and implemented, and adjustments applied to process/equipment as identified3.4 Problems are reported to designated person according to company policies and procedures
4. Review production processes	<ul style="list-style-type: none">4.1 The critical control points (CCPs) and critical limits for product safety are reviewed4.2 A sampling plan for egg based food products is developed and implemented

ELEMENT

PERFORMANCE CRITERIA

- 4.3 Sensory analysis of egg based food products is conducted and analysed
- 4.4 Food tests are undertaken to determine if food quality and safety critical limits are complied with
- 4.5 Operating procedures are reviewed for the safety and quality of egg based food products
- 4.6 Safe work systems for processing of egg based food products are reviewed
- 4.7 Environmental impacts and energy efficiencies are reviewed for processing of egg based food products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- test for quality and shelf life of an avian egg
- recognise common spoilage organisms associated with an avian egg
- construct a process chart for a selected egg production
- estimate and monitor output rate and quality of each of the processes used in the preparation and production of egg based food products
- carry out tests for product safety and quality for egg based products
- diagnose, rectify and/or report problems arising from the preparation and production of egg based food products

Required knowledge includes:

Knowledge of:

- processes used in the preparation and production of egg based food products
- relationship between the processes used in the processing of egg based food products
- operation of equipment and accessories used in the preparation and manufacturing processes of egg based food products
- recognition of spoilage organisms in eggs
- principles of handling and storing eggs
- anatomy and physiology of an avian egg
- pasteurisation processes
- production systems for the preparation and production of egg based food products
- manufacturing processes in regard to frozen and dried egg products
- formulation of egg based food products
- role of major ingredients found in egg based food products
- stages of production, CCPs and critical limits
- quality and continuous improvement processes
- sensory analysis techniques
- safe systems of work.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to identify and implement safety and quality procedures for egg based product manufacturing including monitoring commercial processing techniques, carrying out sensory evaluation and product testing, and reviewing the production system for food safety and quality and environmental impact.
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Tests used to report relevant product/process information and recorded results
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Analysis of product and process under the candidate's supervision • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • A report on review of the production system
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labeling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.</p>
Policies and procedures	<p>Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.</p>
Safe work procedures	<p>Examples of specific task related procedures may include:</p> <ul style="list-style-type: none"> • handling of chemicals • use of PPE
Egg based products	<p>Separated and pasteurised egg pulp and egg yolks and whites, omelette mixes, custards, powdered egg products, frozen egg products (omelettes, eggs cooked and peeled, scrambled egg portions, egg rolls or long eggs)</p>
Ingredients	<p>Sauces and fillings, spices, herbs, water, milk product, nuts, mushrooms or breads</p>
Micro-organisms	<ul style="list-style-type: none"> • bacteria • mould • virus • yeast.
Workplace requirements	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • Quality Assurance requirements • Standard Operating Procedures • the ability to perform the task to production requirements • work instructions.

RANGE STATEMENT	
OH&S	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective equipment (PPE) which may include: <ul style="list-style-type: none"> • coat and apron • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh apron • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards, codes of practice

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

FDFST4050A Identify & implement product safety and quality for processing of fruit, vegetables & other produce

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify and implement product safety and quality for processing of fruit, vegetables and other produce.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency of fruit, vegetables, nuts, herbs and spices and other produce.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Review preparation of fruits, vegetables, nuts, herbs and spices for processing	<ul style="list-style-type: none">1.1 Processes for preparing fruits, vegetables, herbs and spices are identified1.2 The blanching process for fruits, vegetables, nuts, herbs and spices is documented where required1.3 The process of carrying out pre-treatments for fruits, vegetables, nuts, herbs and spices is documented1.4 The steps involved in the manufacture of a range of fruit, vegetable, herbs and spices are identified
2. Monitor production of fruit, vegetables, nut, herb and spice product samples for testing	<ul style="list-style-type: none">2.1 Processing technique to produce required range of fruit, vegetable, herb and spice product samples are identified2.2 Permissible additives/preservatives used in the production of fruits, vegetables, nuts, herbs and spices are evaluated for suitability2.3 Processing stages and processes are monitored according to regulatory, customer and enterprise requirements2.4 Products are produced in a safe working environment using appropriate hygiene and sanitation techniques
3. Investigate the packaging alternatives for fruits, vegetables, nut, herb and spice products.	<ul style="list-style-type: none">3.1 Packaging requirements for fruits, vegetable, herb and spice products are identified and evaluated for suitability3.2 Packaging of a range of fruit, vegetable, nuts, herb and spice products is monitored according to regulatory, customer and enterprise requirements3.3 Adjustments to packaging procedures and design are made where required
4. Assess the quality and shelf life of fruit, vegetable, nuts, herb and spice products	<ul style="list-style-type: none">4.1 A range of testing techniques are performed to assess the safety and organoleptic qualities of fruit, vegetable, nuts, herb and spice products4.2 All common hazards at critical control points (CCPs) for the production of products are identified and assessed4.3 Critical limits are complied with for all steps of production including shelf life and storage
5. Review production processes	<ul style="list-style-type: none">5.1 The CCPs and critical limits for product safety are reviewed5.2 Operating procedures are reviewed for food safety and quality5.3 The production plan is reviewed for processing of food products5.4 Environmental impacts and associated costs are reviewed for processing of food products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- investigate the processing characteristics of fruits, vegetables, nuts, herbs and spices
- determine the seasonal availability and demand for fruits, vegetables, nuts, herbs and spices
- implement preparation and processing requirements for fruits, vegetables, nuts, herbs and spices
- implement quality and food safety procedures for processing of fruits, vegetables, nuts, herbs and spices
- arrange transportation of raw and processed fruits, vegetables, nuts, herbs and spices
- determine the procedures and costings for packaging a range of fruit, vegetable, herb and spice products
- implement packaging procedures for fruits, vegetable, nuts, herb and spice products.

Required knowledge includes:

Knowledge of:

- the physiology of fruits, vegetables, nuts, herbs and spices
- the range of available fruits, vegetables, nuts, herbs and spices used in the food industry
- the physiological changes that can occur to fruit, vegetables, nuts, herbs and spices during harvest and post-harvest treatment
- the various methods of storage which assist to prolong the shelf life of fruits, vegetables, herbs and spices
- the physiology of fruits, vegetables, nuts, herbs and spices
- methods of cleaning and storage of fruit, vegetable, nuts, herb and spice products for sale as fresh produce or for further processing
- manufacturing processes for pickled, canned, dried, and concentrated fruit, frozen and canned vegetables, herb and spice products
- processes and inputs for jam and sauce production
- testing procedures for raw materials through to manufactured product
- stages of production, CCPs and critical limits
- packaging procedures
- quality and continuous improvement processes

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to produce samples of fruit, vegetable, herb and spice products and provide information and data for reviewing the production system
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to use commercial processing techniques to produce samples of fruits, vegetables, herbs and spice products, and to review the production system for food safety and quality and environmental impact.
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies, and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • A report on review of the production system
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Occupational health and safety requirements	<ul style="list-style-type: none"> • OHS legislation, regulations and Codes of practice • Safety Data Sheets (SDSs) for hazardous substances • Enterprise specific OHS requirements.
Regulations	<ul style="list-style-type: none"> • Australian and international standards including: <ul style="list-style-type: none"> • professional association regulations • industry guidelines and codes of practice • industry regulations • Australian and New Zealand Food Standards Code • ISO Standards • Codex Alimentarius • export requirements • State food safety regulations • International, Australian and State environmental protocols and regulations regarding effluent.
Materials, equipment and systems	<p>Food preparation may include:</p> <ul style="list-style-type: none"> • peeling • slicing • dicing • coring • blanching • other pre-treatment processes. <p>Fruit, vegetable herb and spice production processes may include:</p> <ul style="list-style-type: none"> • pickling • puree • canning • drying • freezing • concentration • milling • grinding.

Unit Sector(s)

Unit sector	Technical
-------------	-----------

FDFST4051A Identify and implement product safety and quality processes for fish and seafood products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify and implement product safety and quality processes for fish and seafood products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency of fish and seafood products.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify harvesting and storage practices for fish and seafood	1.1 Techniques used to harvest fish and seafood are identified 1.2 Appropriate storage procedures for fish and seafood products to prevent spoilage are selected 1.3 Spoilage organisms associated with fish and seafood are identified
2. Select the processing techniques and technology used to produce various fish and seafood products	2.1 Sensory evaluation of fish and/or seafood is performed 2.2 The suitability of the fish and/or seafood for use in the manufacturing process is assessed 2.3 The manufacturing process used to produce a pickled, cured, frozen, or canned fish and/or seafood is identified
3. Monitor commercial techniques to manufacture fish and/or seafood product samples	3.1 Appropriate manufacturing process to produce "value-added" fish and/or seafood products is established 3.2 A process chart is constructed for a selected fish or seafood product 3.3 The production system is set to the required operating specifications and production to specification verified 3.4 Testing techniques are carried out on product samples
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 Operating procedures are reviewed for food safety and quality 4.3 The OHS plan is reviewed for processing of food products 4.4 Environmental impacts and associated costs are reviewed for processing of food products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- classify fish and seafood classes according to their phylum/species
- select appropriate storage procedures for fish and seafood products to prevent spoilage
- perform sensory evaluation of fish and/or seafood
- assess the suitability of the fish and/or seafood for use in the manufacturing process
- establish the manufacturing processes used to produce "value-added" fish and/or seafood products
- manufacture a range of sample fish and/or seafood products
- construct a process chart for a selected fish or seafood product

Required knowledge includes:

Knowledge of:

- fish and seafood classes according to their phylum/species
- species of fish and seafood which are generally used in food industry/retail
- harvesting techniques
- storage procedure for fresh and cooked fish and seafood
- spoilage organisms associated with fish and seafood
- sensory evaluation of fish and/or seafood
- manufacturing processes used to produce pickled, cured, frozen and canned fish and/or seafood
- manufacturing processes used to produce "value-added" fish and/or seafood product such as fish/seafood nuggets, sushi and sushimi
- testing procedures for raw materials through to manufactured product
- stages of production, CCPs and critical limits
- packaging procedures
- quality and continuous improvement processes

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to produce samples of fish and seafood products, and to provide information and data for reviewing the production system</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to use commercial processing techniques to produce samples of fish and seafood products, to implement packaging and storage arrangements for fish and seafood products, and to review the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Suitable fish and seafood and production facilities to produce product samples • Tests used to report relevant product/process information and recorded results
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Analysis of product and process carried out under the candidate's supervision • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • A report on review of the production system

EVIDENCE GUIDE	
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Occupational health and safety requirements	<p>Federal and state legislation, regulations, and codes of practice</p> <p>Enterprise requirements</p> <p>Safety Data Sheets (SDSs) for hazardous substances</p>
Regulations	<p>Australian and international food safety standards</p> <p>Australian Quarantine Inspection Service (AQIS) Export Control (Fish) Orders</p> <p>International, Australian and State EPA protocols and regulations regarding effluent</p> <p>Quality system requirements</p>
Materials, equipment and systems	<p>Fish/seafood processing chemicals, fish/seafood processing equipment may include smoking equipment and curing equipment, knives, cutting bench, bandsaw, fish filleting troughs, fish tubs and trays, fish skinning machines, thaw tank, peelings baskets, scales and shucking knives.</p>
Fish & Seafood Species	<p>Fish may include flounder, john dory, mirror dory, snapper, gemfish, red fish, flathead, sea bream, kingfish, jewfish, blue eye, mackerel, Atlantic salmon, ocean trout.</p> <p>Seafood may include squid, octopus and cuttlefish species; lobsters, bugs, prawns, crabs, yabbies; oyster, scallop, abalone and mussel species.</p>

RANGE STATEMENT	
	"Value-added" products may include fish/seafood nuggets , sushi, sushimi, crab sticks and spring rolls.

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

FDFST4052A Implement and review the manufacturing and processing of edible fats and oils

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to review the production system for manufacturing and processing of edible fats and oils, based on the preparation of product samples.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the edible fats and oils sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<ul style="list-style-type: none"> • 1. Review preparation of plant and animal products for oil extraction and processing • 2. Monitor processing techniques and technologies to produce fat or oil product 	<ul style="list-style-type: none"> • 1.1 Processing stages used to prepare plant and animal fats and oils are identified • 1.2 The principles of pre-treatments for fat and oil processing are established • 1.3 Regulatory, quality and safety requirements are established • 2.1 Processing techniques and technologies used to produce fat or oil products are identified • 2.2 Steps involved in the manufacture of fat or oil product are identified • 2.3 Permissible additives used in the production of the fat or oil product are identified • 2.4 Appropriate hygiene and sanitation practices are used to produce product • 2.5 Data requirements appropriate for food safety, quality and production standards are identified • 2.6 Data collection points consistent with equipment capabilities and data requirements are established • 2.7 Procedures to deal with non-conformance in relation to process and the final product are developed • 2.8 Test runs of fat or oil manufacturing process is conducted and product is checked against requirements
<ul style="list-style-type: none"> • 3. Review packaging of fat and oil products 	<ul style="list-style-type: none"> • 3.1 Suitable packaging requirements for fats and oil products are identified and checked against regulatory, client and enterprise requirements • 3.2 Test packaging of fat and oil products is undertaken and checked for safety and conformance to client and enterprise requirements
<ul style="list-style-type: none"> • 4. Assess the quality, safety and shelf life of fats and oil products 	<ul style="list-style-type: none"> • 4.1 A range of testing techniques are performed to assess the safety of fat and oil products • 4.2 A range of testing techniques are performed to assess the quality of the fat and oil products • 4.3 A range of testing techniques are performed to determine the shelf life of fat and oil products • 4.4 Sensory analysis is conducted • 4.5 All common hazards and critical control points (CCPs) for the production of products are identified and assessed
<ul style="list-style-type: none"> • 5. Review production processes 	<ul style="list-style-type: none"> • 5.1 The CCPs and critical limits for product safety are monitored and reviewed according to regulatory and enterprise requirements • 5.2 Operating procedures are reviewed for food safety and quality

ELEMENT**PERFORMANCE CRITERIA**

- 5.3 The production plan is reviewed against enterprise and client schedules and quality requirements
- 5.4 Environmental impacts and associated costs are reviewed for processing of food products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- recognise the difference between fats and oils
- review the various methods of storage which assist to prolong the shelf life of fats and oils
- apply processing techniques, using commercial materials and equipment
- apply sensory evaluation techniques
- carry out product testing
- review production systems.

Required knowledge includes:

Knowledge of:

- widely available animal- and plant-based fats and oils and seasonal availability
- the physiological changes that can occur to plant-based products during harvest
- various methods of storage that assists in prolonging the shelf life of animal- and plant-based fats and oils
- principles of pre-treatments as applies to animal- and plant-based fats and oils
- processing techniques and technologies used to produce animal- and plant-based fats and oils
- testing techniques used to identify quality and safety parameters of animal- and plant-based fats and oils
- packaging requirements for animal- and plant-based fats and oils
- sensory analysis parameters for animal- and plant-based fats and oils
- common food spoilage and food poisoning organisms associated with animal- and plant-based fats and oils
- manufacturing of a range of animal- and plant-based fats and oils
- the physiology of animal- and plant-based fats and oils
- methods of storage for animal- and plant-based fats and oils

manufacturing process for animal and plant fats and oils.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to produce samples of edible fats and oils products, and to provide information and data for reviewing the production system</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the use of commercial processing techniques to produce samples of edible fats and oils, the documentation of packaging and storage arrangements for edible fats and oils, and a review of the production system for food safety and quality.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology and across a range of fat and oil products.. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
<p>Method of assessment</p>	<p>Evidence may include third party report, portfolio, work documentation produced by the candidate, and written and/or oral questioning to assess knowledge and understanding of the performance criteria and critical aspects for assessment. Assessment should also include wherever possible observation of the candidate oversighting or conducting a range of fat and oil manufacturing processes and tests.</p>

EVIDENCE GUIDE	
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Occupational health and safety requirements	<p>Federal and state legislation, regulations, and codes of practice</p> <p>Enterprise requirements</p> <p>Safety Data Sheets (SDSs) for hazardous substances</p>
Regulations	<p>Australian and international standards including:</p> <ul style="list-style-type: none"> • industry guidelines and codes of practice • industry regulations • Australia New Zealand Food Standards Code • ISO Standards • Codex Alimentarius • Australian Quarantine Inspection Service (AQIS) requirements <p>State food safety regulations</p>
Materials, equipment and systems	<p>Fats and oils processing chemicals may include extraction solvents, catalysts, hydrogen.</p> <p>Fats and oils processing equipment may include boiling pans, washing equipment, crushers, extraction, distillation units.</p>
Edible fats and oils	<p>Include tallow, palm oil, oilseed, cooking oils, groundnut oils, mustard oil, safflower oil, sesame oil, soya oil,</p>

RANGE STATEMENT	
	sunflower oil, other vegetable oils
Testing procedures	Include emulsion testing, sensory (organoleptic) testing, extractive testing for free fatty acids, fatty acid profile, peroxide value, polyphenols, sterol composition, moisture and volatiles, unsaponifiable matter, insoluble impurities, flash point, trace metals, residual pesticides, halogenated hydrocarbons.

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

FDFST4053A Implement and review manufacturing, packaging and testing of beverage products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to produce beverages using documented procedures, carry out product testing, and conduct a quality review of the process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the beverages sector. While the unit provides food science and technology skills in brewed beverages and wine, it does not provide full brewing or winemaking skills.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Produce a range of beverage product samples	<ul style="list-style-type: none">1.1 Equipment used to prepare beverage products is selected and prepared1.2 Pre-treatments for beverage production are implemented1.3 Appropriate processing techniques and technologies are used to produce a range of beverage product samples1.4 Permissible additives/preservatives used in the production of beverage products are identified and used according to specifications1.5 Data requirements appropriate for food safety, quality and production standards are identified1.6 Data collection points consistent with equipment capabilities and data requirements are established1.7 Procedures to deal with non-conformance in relation to process and the final product are developed1.8 Sample products are produced using appropriate hygiene and sanitation techniques
2. Review packaging of beverage products	<ul style="list-style-type: none">2.1 Packaging requirements for beverage products are identified consistent with regulatory, client and enterprise requirements2.2 Test packaging of beverage products is undertaken or supervised and checked for safety and conformance to client and enterprise requirements
3. Assess the quality, safety and shelf life of a range of beverage products	<ul style="list-style-type: none">3.1 A range of testing techniques including sensory analysis are performed to assess the safety of the beverage product3.2 A range of testing techniques including sensory analysis are performed to assess the quality of the beverage product3.3 A range of testing techniques are performed to determine the shelf life of the beverage product3.4 All common hazards and critical control points (CCPs) for the production of products are identified and assessed
4. Review production processes	<ul style="list-style-type: none">4.1 The CCPs and critical limits for product safety are reviewed4.2 Operating procedures are reviewed for food safety and quality4.3 The OHS plan is reviewed for processing of food products4.4 Environmental impacts and associated costs are reviewed for processing of food products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- select and source raw materials for processing beverages
- prepare a detailed production flow chart for beverage production
- produce beverages based on documented procedures
- apply and interpret a range of quality tests used in the manufacture of beverages, including brix, acidity, alcohol content determination, sulphur dioxide determination, carbonisation level, sensory evaluation and packaging integrity
- organise the testing of a beverage product
- document and analyse test results
- review quality procedures based on product testing.

Required knowledge includes:

Knowledge of:

- the range of beverage products, including beers, wines spirits, fruit juice products, carbonated beverages, fortified non-alcoholic beverages, tea and coffee
- the different styles of beers generally manufactured
- the different styles of red, white, sparkling and fortified wines generally manufactured
- manufacturing processes used in the production of various styles of wines
- the different types of fruit juices products generally manufactured
- manufacturing process for the production of various types of fruit juices
- manufacturing processes for a variety of carbonated and non-carbonated beverages
- the variety of styles of teas and coffees generally available
- manufacturing processes for the production of various styles of tea and coffee
- common spoilage and food poisoning organisms associated with beverage production
- brewing processes used in the production of various styles of beverages
- fermentation processes in various styles of beverage production
- quality tests used in the manufacture of beverages, including brix, acidity, alcohol content determination, sulphur dioxide determination, carbonisation level, sensory evaluation and packaging integrity
- stages of production, CCPs and critical limits for production processes
- packaging procedures
- quality and continuous improvement processes.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to produce a range of beverage product samples, and to provide information and data for reviewing the production system</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to produce and bottle a range of beverage samples, to assess the quality of the beverage products based on product testing, and to review the production process used for food product safety and quality and for environmental impact.</p> <p>Competency includes the candidate's ability to review manufacturing processes for a range of products drawn from:</p> <ul style="list-style-type: none"> • mineral water products • bottled water products • flavoured water products • sports and energy drinks • standard styles of tea/coffee • decaffeinated tea/coffee • flavoured products • still, sparkling and fortified beverages/wine.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production

EVIDENCE GUIDE	
	environment <ul style="list-style-type: none"> • Tests used to report relevant product/process information and recorded results
Method of assessment	Evidence may include product samples, third party report, portfolio, work documentation produced by the candidate, and written and/or oral questioning to assess knowledge and understanding of the performance criteria and critical aspects for assessment. Assessment should also include wherever possible observation of the candidate oversighting or conducting a range of beverage manufacturing processes and tests.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Occupational health and safety requirements	<ul style="list-style-type: none"> • OHS legislation, regulations and Codes of practice • Safety Data Sheets (SDSs) for hazardous substances Enterprise specific OHS requirements.
Regulations	<ul style="list-style-type: none"> • Australian and international standards including: • professional association regulations • industry guidelines and codes of practice • industry regulations • Australian and New Zealand Food Standards Code • ISO Standards • Codex Alimentarius

RANGE STATEMENT	
	<ul style="list-style-type: none"> • export requirements • State food safety regulations • International, Australian and State environmental protocols and regulations regarding effluent.
Beverage products	Include carbonated drinks, fruit juices and drinks, fermented and alcoholic beverages, soups, water products, teas and coffees.
Materials equipment and systems	Beverage processing chemicals, beverage processing equipment filling and washing equipment.
Testing techniques	Testing techniques include sensory (organoleptic) testing, spectroscopy, titration, chromatography, microbiological testing and extraction.

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

FDFST4054A Identify and implement product safety for manufacturing of cereal products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to produce cereal products using documented procedures, carry out product testing, and conduct a quality review of the process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency for manufacturing of cereal products.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Carry out preparation and pre-treatments for cereal based products processing	1.1 Processes for preparing cereal based products are documented 1.2 Ingredients are selected and prepared for processing 1.3 Materials and equipment used to prepare cereal based products are selected and prepared
2. Produce a range of cereal-based product samples	2.1 Permissible additives/preservatives used in the production of cereal based product samples are selected according to specifications 2.2 Data requirements appropriate for food safety, quality and production standards are identified 2.3 Data collection points consistent with equipment capabilities and data requirements are established 2.4 Procedures to deal with non-conformance in relation to process and the final product are developed 2.5 Correct processing techniques and technologies are used to produce cereal based products
3. Review packaging and procedures for cereal-based products	3.1 Suitable packaging requirements for cereal based products are identified consistent with regulatory, client and enterprise requirements 3.2 Test packaging of cereal products is undertaken or supervised and checked for safety and conformance to client and enterprise requirements 3.3 Adjustments to packaging procedures and design are made where required
4. Assess the quality and safety and shelf life of a range of cereal-based products	4.1 A range of testing techniques are performed to assess the quality and safety of cereal based products 4.2 A range of testing techniques are performed to determine the shelf life of cereal based products 4.3 All common hazards at critical control points (CCPs) for the production of products are identified and assessed
5. Review production processes	5.1 The CCPs and critical limits for product safety are reviewed 5.2 Operating procedures are reviewed for food safety and quality 5.3 The production plan is reviewed for processing of food products 5.4 Environmental impacts and associated costs are reviewed for processing of food products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- select ingredients and prepare equipment for processing
- construct a process flow chart for a selected cereal product
- apply production equipment and processes
- manufacture cereal product using documented procedures
- conduct sensory evaluation and product testing
- collate and analyse the results of testing
- review production processes, HACCP-based food safety plans and product quality
- assess the environmental impacts for the production of a cereal-based product.

Required knowledge includes:

Knowledge of:

- the different varieties of cereal grains
- the processing techniques and technologies used to produce various cereal products
- the major constituents of a cereal grain
- the use of each constituent of a cereal grain
- the milling process generally used to produce flour
- gluten, and its role in a range of wheat flour based products
- bread, biscuit, cake and pastry production techniques
- the manufacturing processes used to produce pasta and noodle products
- the manufacturing processes used to produce breakfast cereal products.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to produce samples of cereal-based products, and to provide information and data for reviewing the production system</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to produce a range of cereal-based products, to assess their quality based on product testing, and to review the production process used for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results
<p>Method of assessment</p>	<p>Evidence may include product samples, third party report, portfolio, work documentation produced by the candidate, and written and/or oral questioning to assess knowledge and understanding of the performance criteria and critical aspects for assessment. Assessment should also include wherever possible observation of the candidate oversighting or conducting a range of beverage</p>

EVIDENCE GUIDE	
	manufacturing processes and tests.
Guidance information for assessment	<p>Evidence should be gathered over a period of time in a range of actual or simulated environments.</p> <p>Recommended technical information:</p> <p>The ICC Handbook of Cereals, Flour, Dough and Product Testing Methods and Applications edited by Stanley P. Cauvain and Linda S. Young (2009)</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Occupational health and safety requirements	<ul style="list-style-type: none"> • OHS legislation, regulations and Codes of practice • Safety Data Sheets (SDSs) for hazardous substances • Enterprise specific OHS requirements.
Regulations	<ul style="list-style-type: none"> • Australian and international standards including: • professional association regulations • industry guidelines and codes of practice • industry regulations • Australian and New Zealand Food Standards Code • ISO Standards • Codex Alimentarius • export requirements • State food safety regulations • International, Australian and State environmental protocols and regulations regarding effluent
Materials, equipment and systems	<p>Manufacturing processes may include but are not limited to:</p> <ul style="list-style-type: none"> • baking • extrusion • mixing

RANGE STATEMENT	
	<ul style="list-style-type: none">• blending• grinding• rolling• steaming• pressing• drying
Cereal products	Include pastas, breakfast cereals and bread products.
Testing techniques	Include sensory (organoleptic) testing, microbiological testing, tests for starches, sugars and carbohydrates, moisture testing.

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

FDFST5001A Monitor refrigeration and air conditioning systems in food processing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to coordinate the monitoring of refrigeration and air conditioning systems in food processing and storage.

Application of the Unit

This unit applies to production, quality and technical staff in food processing who are required to monitor cold storage or a temperature controlled environment. The unit typically applies to staff who have responsibility for maintaining product safety and quality in food processing. The unit can apply to all sectors of food production including general food production, meat and seafood industries. The unit does not cover the design of equipment or undertaking engineering related analyses of refrigeration and air conditioning systems. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Coordinate a refrigeration system in the production of food products	<ul style="list-style-type: none">1.1 Refrigerants and their required properties are identified1.2 Performance of the refrigeration system in the production process is monitored1.3 Ways to improve the performance of the refrigeration system are appraised1.4 Performance of a refrigeration system is analysed1.5 Problems are reported to the designated person according to company policies and procedures
2. Coordinate an air conditioning system in the production of food products	<ul style="list-style-type: none">2.1 Common forms of air conditioning systems used in the production of food products are identified2.2 Air conditioning requirements for a given situation in the production process are assessed2.3 Variables on a psychrometric chart are identified2.4 Psychrometric charts for the analysis of air conditioning systems in the production process are applied2.5 The performance of the air conditioning system in the production process is monitored2.6 Energy efficiency is monitored to reduce costs and environmental impacts2.7 Problems are reported to the designated person according to company policies and procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify characteristics of a refrigeration system in the production of food products
- interpret the function of key components in a refrigeration system
- appraise the performance of a refrigeration system
- identify refrigerants and their required properties
- monitor the performance of the refrigeration system in the production process
- report problems to the designated person according to company policies and procedures
- identify the common forms of air conditioning system used in the production of food products
- identify the variables on a psychrometric chart
- apply psychrometric charts for the analysis of air conditioning systems in the production process
- monitor the performance of the air conditioning system in the production process.

Required knowledge includes:

Knowledge of:

- refrigeration systems in the production of food products
- function of key components in a refrigeration system
- common forms of air conditioning systems used in the production of food products
- psychrometric charts
- energy efficiency and environmental impacts of refrigeration and air-conditioning systems.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to monitor the effectiveness and efficiency of refrigeration and air conditioning systems in food processing, and the impact on energy costs and environment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to assess refrigeration and air conditioning system requirements, and monitor the performance of refrigeration and air conditioning and the potential impacts on food safety and quality.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate conducting a range of tests and procedures • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner • Case studies • Field Reports.

Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.
-------------------------------------	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> Codes of practice, regulations, safety data sheets (SDSs) Enterprise and process specific occupational health and safety requirements.
<p>Regulations</p>	<ul style="list-style-type: none"> Australian and international standards Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
<p>Air conditioning plant and equipment</p>	<p>Air conditioning systems, plant and/or equipment may include electrical supply switchboard(s) and transformers; air conditioner compressors; chillers and associated cooling plant; air fans; humidifiers; heaters and filters; electrical motors; valves, actuators and dampers (electric, hydraulic, pneumatic and manual); supervisory, alarm, protection and control equipment; and chemical dosing equipment.</p>
<p>Refrigeration plant and equipment</p>	<p>Refrigeration equipment may include air conditioning (refrigerated and evaporative), water coolers, packaged air conditioners and refrigerators.</p>
<p>System controls</p>	<p>Controls for both systems may be mechanical, pneumatic, electric, and electronic and may be sequenced/controlled by programmable controllers or computer systems.</p>
<p>Psychrometric variables</p>	<p>Psychrometric variables may include temperature, relative humidity, dew-point temperature, and wet-bulb temperature.</p>

Unit Sector(s)

Technical.

FDFST5002A Identify and implement required process control for a food processing operation

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to identify and implement the required process control system for a food production process.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production. The unit can apply to all sectors of food production including general food production, meat and seafood industries. The unit does not cover the design of equipment or undertaking engineering related analyses of mechanical, electrical, electronic or fluid power systems. However it includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the basic concepts of production processes	1.1 Processes used in the food production are identified 1.2 The characteristics used to define the operation of a process are established 1.3 The operating principles of the processes are identified 1.4 The operating standards, capabilities and maintenance requirements for equipment and accessories used in the specified production process are established 1.5 Product characteristics and common variations are recognised
2. Select the control mechanisms, modes of control and data collection points for a specified food production process	2.1 The operation of different types of control mechanisms is identified. 2.2 Modes of control, which can be used with the various control mechanisms, are identified 2.3 Data requirements and collection points appropriate for food safety, quality and production standards are documented 2.4 Procedures to deal with non-conformance in relation to process and the final product are developed
3. Implement process control systems appropriate for food process	3.1 Process control requirements for food process are communicated to appropriate operational, quality and maintenance personnel 3.2 Standard operational procedures are checked for accuracy and relevance 3.3 Test runs are conducted and checked against requirements 3.4 Statistical analysis is applied to verify the process and recommend and recommend any further system improvements 3.5 The on going collection and analysis of required data is arranged

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify the basic operating principles of equipment and accessories used in food production systems
- identify different types of processes used in food production systems
- use process control terminology
- identify the basic principles of operation of equipment and accessories used in a typical food production process
- recognise the process control methods used to achieve the food safety, quality and production standards
- develop procedures to deal with non-conformance in relation to process and the final product
- identify the operation of different types of process control mechanisms
- identify typical instrumentation for process control
- monitor data collection to ensure it is timely, relevant and accurate
- calculate relevant statistical measures
- apply statistical information to the analysis and verification of a process
- conduct a trend analysis of food processing data
- explain the verification process using statistical data
- prepare and use process control graphs
- use and explain relevant statistical measures
- prepare a report on the outcomes and recommendations/actions of the statistical analysis of process control data.

Required knowledge includes:

Knowledge of:

- the inter-relationships between food processing stages and the effect of variation in processing parameters on process outcome and on final product
- specific plant process operations
- emergency shutdown procedures
- instrumentation and control systems
- product specifications and tolerances
- systems operating parameters
- process control monitoring
- collection and recording of data
- statistical analysis of process control data
- reporting on conclusions from statistics-based process control monitoring and review.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to recognise and implement the process control system for a food processing operation in order to achieve required food product specification.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency must be demonstrated in the ability to monitor process control systems in a typical production process, collect and analyse process control data and recommend system improvements, and develop procedures to deal with non-conformance in relation to process and the final product.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Field reports • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner • Case studies.
<p>Guidance information for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food</p>

	<p>technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p>
--	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Occupational health and safety requirements	<ul style="list-style-type: none"> • Codes of practice, regulations, safety data sheets (SDSs) • Enterprise and process specific occupational health and safety requirements.
Regulations	<p>Includes Australian and international Acts, regulations and standards where export of food products is undertaken.</p> <p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation and legislation and regulations covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.</p>
Materials, equipment and systems	<p>Typical processing and related techniques include but are not limited to raw materials/ingredient dispensing, preparation, mixing and blending, conditioning, primary and further processing, wrapping, packing and storage.</p> <p>Typical process parameters include but are not limited to temperature, time, pressure, flow rate etc.</p>
Operating standards, capabilities and maintenance requirements for equipment and accessories	<p>For this unit operating standards, capabilities and maintenance requirements for equipment and accessories are the equipment features that impact on the design of a food production process and the setting of production</p>

	<p>requirements. Examples could be:</p> <ul style="list-style-type: none">• required down time for maintenance• holding capacity of bins, vessels, ovens etc• equipment in place cleaning programs and procedures• maximum and minimum conveyor speeds• oven temperature range• location of guards, access ports, loading and unloading doors, hatches etc.
--	--

Unit Sector(s)

Technical.

FDFST5003A Construct a process control chart for a food processing operation

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit describes the skills and knowledge to construct a process control chart based on a sound knowledge of statistics and the ability to determine Process Capability for equipment.

Application of the Unit

This unit applies to food processing staff who have roles in product design, or quality and production management. The unit typically applies to staff who have responsibility for establishing and maintaining product safety, quality and efficiency in food processing. The unit can apply to all sectors of food production including general food production, meat and seafood industries. The unit does not cover applying statistics to analyse mechanical, electrical, electronic or fluid power systems. However it includes applying statistics to food processing equipment to determine process capability and to construct a process control chart for the food processing operation. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where **bold italicised** text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply tools and techniques to collect and present data	<p>1.1 The key characteristics and uses of attribute and variable data are identified</p> <p>1.2 The concepts of frequency and distribution are described</p> <p>1.3 The frequency and distribution of supplied data for various measurement levels are determined</p> <p>1.4 Data collection tools including check sheets, surveys and logs are described and used</p> <p>1.5 Appropriate charts and graphs using available data are constructed</p>
2. Interpret charting tools and techniques in process control	<p>2.1 The concept of process capability and its implications are discussed</p> <p>2.2 Probability distributions in analysing process capability are used</p> <p>2.3 Control Charts used to monitor processes are interpreted</p> <p>2.4 The application of charting methods to establishing process capability, evaluating process changes and interpreting simple experiments is identified</p>
3. Determine the Process Capability of a piece of equipment on a production line	<p>3.1 The scope and purpose of the process are identified</p> <p>3.2 A representative data sample is determined</p> <p>3.3 Data collection techniques are selected</p> <p>3.4 Data is collected to meet sampling requirements</p> <p>3.5 Appropriate statistical analysis techniques are selected and applied</p> <p>3.6 All relevant parameters for the determination of Process Capability are calculated statistically</p> <p>3.7 The Process Capability value for each piece of equipment is incorporated into process control for the whole operation</p>
4. Construct a process flow chart	<p>4.1 Scope and purpose of Average & Range charts in the food industry are identified</p> <p>4.2 All relevant parameters for use in preparing both Average and Range charts are statistically calculated</p> <p>4.3 Average and Range charts, showing all pre-calculated parameters, are prepared</p> <p>4.4 Trends and cyclic patterns of Average and Range charts are interpreted</p> <p>4.5 An action plan based on the results of Average and Range is designed</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify the types of causes of variation
- identify probability principles
- apply Poisson and binomial distributions to supplied attribute data
- identify the characteristics of the Normal distribution
- calculate and interpret indices of variability
- identify skewed distributions
- calculate and interpret indices of significance and variance
- calculate and interpret indices of probability
- identify and explain the role of Statistical Quality Control (SQC)
- discuss the concepts of process capability, acceptance levels and process improvement
- apply the uses of Average & Range charts in the food industry
- calculate statistically all relevant parameters for use in preparing both Average and Range chart
- prepare Average and Range charts showing all pre-calculated parameters
- interpret trends and cyclic patterns of Average and range charts
- prepare an action plan based on the results of Average and Range
- describe and calculate measure of central tendency
- identify the principles of process capability
- calculate all relevant parameters for the determination of process capability statistically
- interpret process capability value in relation to the overall process
- represent data in graphs, tables, averages and percentages
- prepare a report with recommendations regarding the outcomes of the process capability.

Required knowledge includes:

Knowledge of:

- the terms statistic and parameter
- the concept of statistical inference
- principles of variability and variance
- the relationship between probability and statistical inference
- the concept of variation within processes and recognition of its implications for process design and management
- the scope and purpose of Average & Range charts in the food industry
- all relevant parameters for use in preparing both Average and Range chart
- pre-calculations of parameters of Average and Range charts
- trends and cyclic patterns of Average and range charts
- the preparation of an action plan based on the results of Average and Range

- the definition of process capability
- process capability values.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to construct and interpret a process control chart based on the ability to determine Process Capability for equipment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to:</p> <ul style="list-style-type: none"> • apply tools and techniques for analysing in specification or out of specification production processes • identify and explain patterns of variation exhibited by distributions • construct a process flow chart • interpret Control Charts • determine process capability for a food processing operation.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Field Reports • Written and/or oral questioning to assess knowledge and understanding

	<ul style="list-style-type: none"> • Completing workplace documentation • Third party reports from experienced practitioner • Case studies • Observation of candidate conducting a range of tests and procedures.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Occupational health and safety requirements	<ul style="list-style-type: none"> • Codes of practice, regulations, material safety data sheets (MSDSs) • Enterprise and process specific occupational health and safety requirements.
Policies and procedures	<ul style="list-style-type: none"> • Codes of practice, regulations, MSDSs • Enterprise specific requirements • Relevant state/territory/commonwealth occupational health and safety acts, regulations, national standards, codes of practice and guidance notes which may apply in jurisdiction • Australian and international standards • Food safety legislation • Relevant equipment and software for data analysis.

Unit Sector(s)

Technical.

FDFST5004A Specify and monitor the nutritional value of processed food

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to provide nutritional information for processed food, and to implement procedures to optimise the nutritional value of a product.

Application of the Unit

This unit applies to production, and technical managers who are required to specify and monitor the nutritional value of foods through processing and to verify the accuracy of label information, and to product developers who are required to assess nutritional value and properties of a new product. This unit does not cover the analysis of food to determine nutritional composition. Where this skill is required the unit MSL975022A Perform food analyses should be selected.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Ensure label information is accurate and complete	1.1 The dietary intakes and requirements for an identified consumer group for a food product are identified 1.2 Food storage and preparation information related to maintaining nutritional value and food safety are provided 1.3 Organisational and NHMRC Australian Dietary Guidelines for nutritional information on product labels are applied
2. Evaluate methods of preserving nutrients during food processing and storage	2.1 The effects of food processing and storage conditions on the stability of certain nutrients are analysed 2.2 The need for fortification of processed foods in the Australian diet is evaluated 2.3 Food processing and storage methods are evaluated for their impact on the nutritive value of product
3. Assess the benefits of food products developed or modified to meet the needs of a customer group	3.1 Common nutritional deficiencies and related diseases are evaluated 3.2 Appropriate diets for customers with specific requirements or health challenges are identified 3.3 Modified and functional foods are identified and categorised 3.4 The main benefits of food products developed or modified to meet the nutritional needs of special groups are assessed
4. Apply nutritional information and issues to product development, labelling and marketing of processed foods	4.1 Nutritional requirements to be considered, during product development, are evaluated and applied 4.2 The legal requirements for nutritional labelling food products are applied 4.3 Nutritional issues, in relation to the legal and ethical marketing of processed foods, are evaluated

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- recognise key macronutrients required for a healthy diet
- establish the processes of digestion and absorption
- establish the process of energy metabolism in the human body
- apply knowledge of nutrition to food processing
- identify, review and apply key and current nutritional information
- compare the nutritional needs of special population groups
- evaluate a food product for its nutritional properties
- evaluate nutritional issues in relation to product development, labelling and marketing of processed foods
- identified nutritional related risk factors and diseases
- establish public health and environmental hazards, in relation to nutrition.

Required knowledge includes:

Knowledge of:

- key macro and micro nutrients for a healthy diet
- the processes of digestion, absorption and energy metabolism in the human body
- human energy requirements
- dietary guidelines and legislative requirements related to processed foods
- the effects of processing and storage on nutrients, and the methods for overcoming these effects
- the role of proteins in nutrition
- the role of carbohydrates in nutrition
- the role of vitamins and minerals in nutrition
- the role of dietary fibre
- the role of lipids in nutrition
- the body's processes for storing and using water and its role in nutrition
- nutritional related risk factors and diseases
- food intolerances and allergies
- functional foods
- diseases caused by nutritional deficiencies
- modified and functional foods and nutraceuticals.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to provide nutritional information for processed food, and to implement procedures to optimise the nutritional value of a product.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to identify, review and apply nutritional information, compare the nutritional needs of special population groups, and evaluate nutritional issues in relation to product development, labelling and marketing of processed foods.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, food testing data and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation including labels for a product • Case studies.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time in a</p>

	range of actual or simulated environments.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Codes of practice, regulations, Safety Data Sheets (SDSs)</p> <p>Enterprise specific requirements.</p>
<p>Food processing Regulations/ Standards/ Guidelines</p>	<ul style="list-style-type: none"> • Australian and international standards • Codex Food Processing Standards • Acts of Parliament • National Health & Medical Research Council (NHMRC) Australian dietary guidelines • Food Standards Australia New Zealand (FSANZ) labelling regulations.
<p>Organisations</p>	<p>May include:</p> <ul style="list-style-type: none"> • National Health & Medical Research Council (NHMRC) • National Heart Foundation of Australia (NHFA) • Federation of Australian Nutrition Organisations (FANO) • Nutrition Australia • The Nutrition Society of Australia • Dietitians Association of Australia • The Australian Institute of Food Science & Technology • Australian Society of Clinical Immunology and Allergy.
<p>Functional foods</p>	<p>Any fresh or processed food claimed to have a health-promoting or disease-preventing property beyond the basic function of supplying nutrients. Fermented foods with live cultures are considered as functional foods with probiotic benefits.</p>
<p>Nutraceuticals</p>	<p>Includes functional foods that also aid in the prevention and/or treatment of disease(s) and/or disorder(s) (except anaemia).</p>
<p>Modified foods</p>	<p>Fresh or processed food which has had components added (e.g. Vitamin C enriched) or reduced (e.g. low fat milk).</p>

Unit Sector(s)

Technical.

FDFST5005A Identify the biochemical properties of food

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to identify and apply a knowledge of biochemical substances and reactions to food product development and processing.

Application of the Unit

This unit applies to technical and management staff who have responsibility for maintaining product safety, quality and efficiency in food processing. The unit can apply to all sectors of food production including general food production, meat and seafood industries. The unit includes applying knowledge of food biochemistry to establish and monitor food safety, quality and processing performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use and apply terms and concepts relating to organic substances important in food processing	1.1 Biochemical terminology relating to food processing is used accurately 1.2 Relevant concepts are applied to explain the biochemistry in food processing
2. Identify biochemical compounds and explain biochemical reactions important in food processing	2.1 Biochemical compounds carbohydrates; amino acids, proteins and lipids are identified and classified 2.2 Molecular structures for important biochemical compounds are depicted 2.3 Chemical and physical behaviour associated with carbohydrates, amino acids, proteins and lipids is identified including the molecular processes taking place 2.4 Basic tests are performed to identify biochemical reactions and the associated physical and chemical changes in food processing
3. Assess the impact of food processing operations on the biochemistry of processed food products	3.1 Biochemical macro constituents and micro constituents of food are identified 3.2 Effect of processing on biochemistry and nutritional value of foodstuffs is assessed 3.3 Biochemical actions of food additives are identified 3.4 Biochemical principles relating to the spoilage and preservation of foods are explained
4. Extract samples of product or raw materials for biochemical testing and apply the results to food production processes	4.1 Properties of biochemical compounds and their extraction techniques are established for a food processing operation 4.2 Sampling is conducted according to the sampling plan and the tests to be conducted 4.3 Sample purity and integrity is maintained prior to testing 4.4 The results of biochemical testing are applied to ingredient selection and process control for a food processing operation

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify the major chemical constituents found in foods
- interpret the biochemical principles relating to the preservation of foods
- apply sampling techniques to test for biochemical properties
- identify the biochemical action of important food additives
- carry out biochemical testing to determine the components of a food product
- apply the results of biochemical testing to maintain product quality and safety in food processing.

Required knowledge includes:

Knowledge of:

- terminology relating to biochemical substances
- the structure and properties of the biochemical compounds carbohydrates; amino acids, proteins and lipids
- the molecular structures for important biochemical compounds
- the chemical and physical behaviour associated with carbohydrates, amino acids, proteins and lipids in terms of molecular theory
- basic tests to identify biologically important biochemical materials including:
 - Benedict's test for glucose
 - Lugol's iodine test for starch
 - Biuret test for protein
 - Sudan III test for fats & oils
- sampling and testing techniques to determine the components and biochemical reactions for food products.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to design and manage food processing operations based on a knowledge of the biochemistry of food processing.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of a detailed understanding of biochemistry of food, including the ability to carry out basic chemical tests to identify biochemical compounds, use biochemical knowledge to predict the effects of processing, storage and additives in food processing, and produce or extract representative samples of biochemical compounds.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • laboratory and related equipment, manufacturers' advice and operating procedures • methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate conducting a range of tests and sampling procedures • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Case studies • Field Reports

	<ul style="list-style-type: none">• Third party support from experienced practitioner.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures and legislation</p>	<ul style="list-style-type: none"> • Australian and international standards • Acts of Parliament • Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
<p>Australian and international standards</p>	<ul style="list-style-type: none"> • Australian and international standards <ul style="list-style-type: none"> • AS ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories • Food Standards Code 2002 Australia New Zealand (FSANZ) and amendments • AQIS Export Control Orders • NATA accreditation procedures • AOAC standards • Dairy Food Safety standards • ISO 9000 series Quality management and quality assurance standards • AS 2243 Safety in laboratories • AS 2830 Good laboratory practice • AS 2134.1 Flame atomic absorption spectroscopy.
<p>Equipment and materials</p>	<ul style="list-style-type: none"> • General equipment may include hotplates, ovens, melting point and boiling point apparatus, steam baths, appropriate glassware and chemicals. • Analytical instruments may include spectrometric instruments such as: <ul style="list-style-type: none"> • ultraviolet/visible • infrared including Fourier transform infrared and near infrared • atomic absorption including flame and flameless.
<p>Biochemical testing</p>	<ul style="list-style-type: none"> • This may include any tests applicable to food products such as: <ul style="list-style-type: none"> • Benedict's test for glucose

	<ul style="list-style-type: none">• Lugol's iodine test for starch• Biuret test for protein• Sudan III test for fats & oils.
Biochemical reactions	<ul style="list-style-type: none">• These may include any reactions relevant to food processing operations including:<ul style="list-style-type: none">• oxidation• hydrolysis• enzymic reactions• lipid isomerisation• lipid polymerisation• polysaccharide synthesis• glycolysis• protein denaturing.

Unit Sector(s)

Technical.

FDFST5006A Apply food microbiological techniques and analysis

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to perform tests and analysis in a food based microbiological laboratory. It requires high level skills in identifying the type of microbiological testing required, ensuring that test procedures follow documented protocols, and analysing and reporting the conclusions from testing to operation managers.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to senior technical staff, and production managers, who are required to analyse the microbiology of food in food processing operations.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFST4004 Perform microbiological procedures in the food
A industry

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where **bold italicised** text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify food poisoning and spoilage bacteria, including methods of control	1.1 The major bacteria responsible for food poisoning and spoilage are identified 1.2 The types of processes used in the control of microbial growth in food products are evaluated 1.3 The effect of a standard food preserving technique over a range of pH, on the growth patterns of microbes is ascertained 1.4 The effectiveness of this food preserving technique in controlling food poisoning and spoilage microbes is evaluated 1.5 The usefulness of this technique, as part of process control of food poisoning and spoilage microbes is assessed 1.6 Compliance with Food Standards are assessed for food preservation techniques
2. Perform microbiological techniques for the identification of food borne disease	2.1 Standard microbiological techniques to identify and enumerate food poisoning and spoilage organisms, from a food sample, are used 2.2 The type of toxins, produced by the major food pathogens, are identified 2.3 Documented food borne disease outbreaks, from the past, are investigated 2.4 The ramifications of product contamination in terms of Public Health and product shelf-life quality are determined 2.5 Specimens and waste are handled in accordance with enterprise OHS guidelines
3. Apply the principles of microbiological quality control	3.1 The spoilage patterns of specific foods at different temperatures of storage are ascertained 3.2 The relationship between spoilage patterns and the growth cycle of the specific food spoilage/poisoning organisms is determined 3.3 A microbiological quality control program for a specific food is designed, implemented and evaluated in terms of the Food Standards 3.4 The importance of plant hygiene and how it can affect the finished product is determined 3.5 Specimens and waste are handled in accordance with enterprise OHS guidelines
4. Apply rapid microbiological techniques and other relevant technology for the identification of microbes related to	4.1 The principles of accelerated culture techniques are critically examined 4.2 The relevance of rapid microbiological technology, as related to control of plant hygiene, is identified 4.3 A series of tests to determine the adequacy of plant sanitation procedures, by rapid microbiological or other techniques, is

ELEMENT	PERFORMANCE CRITERIA
plant hygiene	performed
	4.4 Specimens and waste are handled in accordance with enterprise OHS guidelines
5. Perform techniques involving microbial fermentations	5.1 The types and characteristics of micro organisms used for fermentation within the food industry are identified
	5.2 Standard microbiological techniques to isolate and identify yeasts and bacteria in given food samples are used
	5.3 Sub-culturing and pure culture techniques for "scale up" to "starter" cultures are performed
	5.4 New culture strains after fermentation are maintained using standard techniques
6. Analyse test results and provide recommendations to process controllers or production managers	6.1 Results of microbiological tests are recorded and collated
	6.2 Microbiological data is analysed and compared with food safety and food processing critical control limits and other parameters
	6.3 Implications of test results are established and conclusions are drawn
	6.4 Test results, conclusions and recommendations are documented and presented to food processing management

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify the major bacteria responsible for food poisoning and spoilage
- evaluate processes used in the control of microbial growth in food
- ascertain the effect of a standard food preserving technique on the growth patterns of microbes
- use standard microbiological techniques to identify and enumerate food poisoning and spoilage organisms, from a food sample
- identify the type of toxins, produced by the major food pathogens
- investigate documented food borne disease outbreaks from the past
- determine the ramifications of product contamination in terms of Public Health and product shelf-life
- handle specimens and waste in accordance with enterprise OHS guidelines
- ascertain the spoilage patterns of specific foods at different temperatures of storage
- determine the relationship between spoilage patterns and the growth cycle of the specific food spoilage/poisoning organisms
- determine the importance of plant hygiene and how it can affect the finished product
- critically examine the principles of rapid microbiological techniques, including:
 - accelerated culture techniques
 - rapid biochemical tests
 - measurement of total bacteria metabolism
 - measurement of spoilage
 - non-traditional methods
 - automated and mechanised methods
- identify the relevance of rapid microbiological technology, as related to control of plant hygiene
- perform a series of tests to determine the adequacy of plant sanitation procedures, by rapid microbiological or other techniques, including:
 - rinse methods
 - swab methods
 - replica or contact methods
- identify the types and characteristics of micro organisms used for fermentation within the food industry, including: *Saccharomyces* spp., *Streptococcus* spp. and *Lactobacillus* spp.
- use standard microbiological techniques to isolate and identify yeasts and bacteria in given food samples
- perform sub-culturing and pure culture techniques for "scale up" to "starter" cultures
- maintain new culture strains after fermentation using standard techniques
- record, analyse and present data, with associated conclusions and recommendations.

Required knowledge**Knowledge of:**

- processes used in the control of microbial growth in food products
- major bacteria responsible for food poisoning and spoilage
- processes used in the control of microbial growth in food products
- Food Standards
- statistical methods for process control including Viable Count Methods
- standard microbiological techniques to identify food poisoning and spoilage organisms
- microbiological toxins as produced by major food pathogens
- spoilage patterns
- growth cycle of micro organisms in food
- microbiological quality control programs
- plant hygiene, including sanitation checks – rinse, swab, contact and rapid methods
- rapid microbiological techniques:
 - accelerated culture techniques
 - rapid biochemical tests
 - measurement of total bacteria metabolism
 - measurement of spoilage
 - non-traditional methods
 - automated and mechanised methods
- types and characteristics of fermentation micro-organisms, including:
 - *Saccharomyces* spp., *Streptococcus* spp. and *Lactobacillus* spp
- standard microbiological techniques to isolate and identify yeasts and bacteria in given food samples
- sub-culturing and pure culture techniques for "scale up" to "starter" cultures
- maintenance of new culture strains after fermentation
- critical control limits and microbiological processes and species in food production
- analysis of microbiological data by comparison with food safety and production standards
- effective data presentation and reporting.

-

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	To meet the requirements of this Unit, the candidate must demonstrate that they are able to undertake microbiological testing and analysis in a food processing environment.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to use a range of microbiological techniques in food processing in compliance with quality and food safety system requirements, to apply rapid microbiological analysis techniques, and to perform techniques involving microbial fermentations.
Context of and specific resources for assessment	<ul style="list-style-type: none"> Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment. <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> Production process and related equipment, manufacturers' advice and operating procedures Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment Tests used to report relevant product/process information and recorded results
Method of assessment	The following assessment methods are suggested: <ul style="list-style-type: none"> Observation of candidate conducting a range of tests and procedures Written and/or oral questioning to assess knowledge and understanding Completing workplace documentation

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Third party reports • Case studies • Field Reports
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<ul style="list-style-type: none"> • Codes of practice, regulations, Safety Data Sheets (SDSs) • AS/NZS 2243.3 - Safety in laboratories, Part 3: Microbiology • Enterprise Standard Operating procedures (EOPs): • safety requirements for equipment, materials or products • cleaning, hygiene, personal hygiene requirements • incident and accident/injury reports • Australian and international standards, including: • Food Standards Code 2002 Australia New Zealand and amendments • AS 2830 Good laboratory practice • AS/NZS 2243 Safety in Laboratories • AS/766 Food microbiology • Enterprise Standard Operating procedures(SOPs) • OHS legislation and enterprise requirements

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Custom Content Section

Not applicable.

FDFST5007A Evaluate sampling plans in relation to food industry standards

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to interpret, apply and evaluate a sampling plan in relation to food industry standards.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production through the sampling and testing of ingredients and product. The unit can apply to all sectors of food production including general food production, meat and seafood industries. The unit includes using knowledge of food science and processes to determine the required food safety and quality parameters, and the product sampling regime required for testing that parameters and standards have been met. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the concept of sampling	1.1 The basis of selection of an appropriate sample size is established 1.2 The Acceptable Quality Level (AQL) is identified, in reference to sampling 1.3 The Operating Characteristic (OC) Curve is identified, in reference to sampling 1.4 Single/double sampling and its uses in the food manufacturing industry are assessed 1.5 Sampling tables are interpreted.
2. Interpret, apply and evaluate a sampling plan	2.1 Appropriate sample size is identified. 2.2 Appropriate Acceptable Quality Limit (AQL) is identified 2.3 Relevant sampling table is selected 2.4 Results are interpreted

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- establish the basis of selection of an appropriate sample size
- identify the Acceptable Quality Level (AQL) and the Operating Characteristic (OC) Curve
- assess single and double sampling and their uses in the food manufacturing industry
- interpret, apply and evaluate a sampling plan.

Required knowledge includes:

Knowledge of:

- acceptable Quality Limits
- operating Characteristics Curve
- single, double, sequential and multiple sampling plans
- sampling tables.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to interpret a sampling plan as part of quality processes in food production.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to establish an appropriate sample size interpret sampling tables and analyse the results of sampling.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers’ advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation for a sampling plan • Third party reports from experienced practitioner • Case studies • Field Reports • Observation of candidate conducting a range of tests and procedures.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time in a</p>

	range of actual or simulated environments.
--	--

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Regulations	<ul style="list-style-type: none"> • Australian and international standards • Acts of Parliament • Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Sampling requirements	<p>Sampling requirements may include a range of sampling plans which apply to organisational, plant or field sites; different products or materials; a range of sampling points.</p>
Sampling tools and equipment	<p>Sampling tools and equipment may include personal protective equipment, sampling frames, sampling tubes, weighted sample bottles, variety of sterile containers, preservatives, automatic samplers, timers, refrigerated samples, composite and discrete samplers.</p>

Unit Sector(s)

Technical.

FDFST5008A Develop a new food product

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to develop an innovative food, beverage or related product from a concept to a packaged and labelled finished product.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for food product development. The unit can apply to all sectors of food production including general food production, meat and seafood industries. The unit does not cover developing process controls however ingredients, food processes and production parameters must be documented. Depending on the product developed, liaison may be required with production managers, engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop concept for the new product	1.1 Identify concept for new innovative product 1.2 Identify potential innovative new product 1.3 Determine market for new product 1.4 Determine viability of product concept
2. Identify product development parameters	2.1 Determine product parameters 2.2 Determine equipment required for producing new product 2.3 Determine analytical tests to be conducted to identify quality and safety parameters 2.4 Determine processing parameters 2.5 Determine ingredients required for producing new product
3. Trial new product	3.1 Conduct a series of trials of new product 3.2 Determine improvements and or changes required for each successive trial 3.3 Accurately record details of each trial
4. Analyse new product	4.1 Determine appropriate analytical tests to be conducted to verify product safety and quality 4.2 Conduct appropriate tests to determine quality and safety of product 4.3 Accurately record test results 4.4 Determine safety and quality of product using analytical results
5. Design label for product	5.1 Establish concept for product label 5.2 Identify requirements to ensure the product label is compliant 5.3 Develop a compliant label for the food product
6. Package product	6.1 Establish equipment required for packaging new food product 6.2 Establish suitable packaging materials required for packaging new product 6.3 Package final product
7. Document development process	7.1 Conceptual ideas are documented 7.2 Research relevant to new product is conducted and documented 7.3 Analysed results of new product quality and safety are verified and documented 7.4 Details and results of product trials are documented and changes to trials are explained and justified

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret food safety requirements
- interpret and conform to relevant standards and legislative requirements
- apply testing and sensory analysis techniques relevant to new product development
- interpret analytical results
- establish processing techniques and parameters relevant to new product under development
- record, document and verify information relating to product development.

Required knowledge includes:

Knowledge of:

- customer needs and market research
- food safety and food quality parameters
- food processing principles relevant to new product
- food testing and sensory analysis techniques
- food packaging requirements
- all legislative requirements associated with new product.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	A person who demonstrates competency in this unit must be able to produce samples of cereal-based products to provide information and date for reviewing the production system.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Critical aspects of assessment must include the ability to develop a food product including evidence of:</p> <ul style="list-style-type: none"> developing a concept and production parameters for a food product; trialling the production of the new product; analysing the results of product trials; designing packaging and label for the new product; and preparing a report on the product development process.
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Laboratory facilities • Production facilities • Current legislative requirements • Computers, printers and appropriate software packages • Access to research materials including but not exclusive to: <ul style="list-style-type: none"> • journals • periodicals • internet • articles • research papers

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• text• industry papers.
Method of assessment	The following assessment methods are suggested: <ul style="list-style-type: none">• A report on developing a product from concept to packaging• The qualities and packaging of the new product• Written and/or oral questioning to assess knowledge and understanding• Observation of candidate conducting a range of processes and tests.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Occupational health and safety requirements</p>	<ul style="list-style-type: none"> • Codes of practice • Material Safety Data Sheet • Enterprise specific.
<p>Regulations</p>	<ul style="list-style-type: none"> • Australian and international standards including: <ul style="list-style-type: none"> • professional association regulations • industry guidelines and codes of practice • industry regulations • Food Standards Code • ISO Standards • codex alimentarius • State food regulators • Acts of parliament.
<p>Materials, equipment and systems</p>	<ul style="list-style-type: none"> • Access to processing facilities within research parameters • Access to analytical facilities within research parameters • Access to research materials including but not limited to: <ul style="list-style-type: none"> • industry journals/periodicals • food-related magazines • text • articles • internet sites associated with research parameters.

Unit Sector(s)

Technical.

FDFST5023A Implement and review the production of milk fat products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to implement and review the standards and procedures for manufacture of milk fat products.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the dairy processing sector. This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Manufacture milk fat products	<p>1.1 The specifications for the end product are interpreted</p> <p>1.2 Data requirements and collection points appropriate for food safety, quality and production standards are interpreted from procedures</p> <p>1.3 Procedures to deal with non-conformance in relation to process and the final product are interpreted or developed</p> <p>1.4 A safe working environment is provided for the manufacture of product samples</p> <p>1.5 A range of sample milk fat products are manufactured</p>
2. Monitor the manufacture of milk fat products to meet quality standards	<p>2.1 Appropriate production system is selected, and the preferred sequence of activity to prepare the system for operation is determined</p> <p>2.2 Resource requirements for the preparation and manufacture of milk fat products are verified and sourced</p> <p>2.3 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements</p> <p>2.4 Production system is set to operating specifications before and during production</p> <p>2.5 Process controls for the preparation and manufacture of milk fat products are implemented and supervised</p>
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of manufactured milk products	<p>3.1 Sensory evaluation and product testing used to identify defects is carried out</p> <p>3.2 System used to identify defects in the preparation and manufacture of milk fat products is applied</p> <p>3.3 Adjustments to process/equipment as identified are implemented</p> <p>3.4 Problems are reported to designated person according to company policies and procedures</p>
4. Review production processes	<p>4.1 The critical control points (CCPs) and critical limits for product safety are reviewed</p> <p>4.2 Operating procedures are reviewed for food safety and quality</p> <p>4.3 The OHS plan is reviewed for processing of manufactured milk products</p> <p>4.4 Environmental impacts and associated costs are reviewed for processing of manufactured milk products</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- document the steps in production for a range of manufactured milk fat products
- establish CCPs and critical limits for each step in production
- determine a production schedule for manufactured milk fat products
- carry out sensory evaluation and product testing
- overview the implementation of the HACCP plan
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge includes:

Knowledge of:

- the impact of processing on milk
- compositional requirements for a range of milk fat products
- manufacturing processes, including materials and equipment, involved in producing cream, butter, condensed milk, milk powder and milk with amendments or additives
- purpose of each process, and relationship between the processes, used in the preparation and manufacture of milk fat products
- principles of operation of equipment and accessories used in the preparation and manufacture of milk fat products
- output of each of the processes used in the preparation and manufacture of milk fat products
- critical factors in the preparation and manufacture of milk fat products
- potential product defects and their causes which may arise in the preparation and manufacture of milk fat products
- the various components of milk
- the hazards associated with raw milk
- the various spoilage organisms associated with milk
- composition of milk based products
- chemical and physical hazards which may affect milk
- procedures for milk storage, handling and preparation
- safe work procedures

- sanitation and hygiene procedures
- HACCP principles and critical limits in a HACCP program
- identification of CCPs and critical limits
- water and energy use and recycling in processing
- regulatory requirements associated with the preparation of milk fat products
- environmental impacts of the food processing operation.
-

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to implement and review the standards and procedures for manufacture of milk fat products.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to implement and review the production of milk fat products including implementing process control procedures and data collection for milk fat products, carrying out sensory evaluation and product testing, diagnosing and reporting problems for manufacturing of milk fat product, and reviewing the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • A report on a review of the production system.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time in a range of actual or simulated environments.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labeling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
OHS requirements	<ul style="list-style-type: none"> • Legislation, regulations and Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements.
Milk fat products	These may include cream, butter, anhydrous milk fat, dairy blends, reconstituted butter, aerated butters, ghi, cultured butter and butter milk.
Dairy products equipment	Dairy products processing equipment may include fermenting vessels, butter and cream centrifuge, heat exchangers, homogenisers, aseptic fillers, mix tanks, autoclaves, vacuum evaporation and spray drying equipment.

Unit Sector(s)

Technical.

FDFST5024A Implement and review the production of fermented dairy products and dairy desserts

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to implement and review the standards and procedures for manufacture of fermented dairy products and dairy desserts.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the dairy processing sector. This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor the production of fermented dairy products and dairy desserts to meet quality standards	<ul style="list-style-type: none">1.1 Appropriate production system is selected and the preferred sequence of activity, to prepare the system for operation, is implemented1.2 Resource requirements for the preparation and manufacture of fermented dairy products and dairy desserts are documented and sourced1.3 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements1.4 Data requirements appropriate for food safety, quality and production standards are interpreted1.5 Data collection points consistent with equipment capabilities and data requirements are established1.6 Procedures to deal with non-conformance in relation to process and the final product are developed1.7 Production system is set to operating specifications before and during production1.8 Process controls for the manufacture of fermented dairy products and dairy desserts are monitored
2. Diagnose, rectify and/or report problem arising from the preparation and manufacture of fermented milk products and dairy desserts	<ul style="list-style-type: none">2.1 Sensory evaluation and product testing protocols used to identify defects and non compliant product are determined2.2 A system to identify defects in the preparation and manufacture of fermented dairy products and dairy desserts is implemented2.3 A sampling plan is developed and implemented2.4 Sensory analysis is conducted and analysed2.5 Food tests are undertaken2.6 Adjustments to process/equipment as identified are implemented in response to analysed results2.7 Problems are reported to designated person according to company policies and procedures
3. Review production processes for fermented milk products and dairy desserts	<ul style="list-style-type: none">3.1 The CCPs and critical limits for product safety are reviewed3.2 Operating procedures are reviewed for food safety and quality3.3 Safe work systems for processing of fermented dairy products and dairy desserts are reviewed3.4 Environmental impacts and energy efficiencies are reviewed for processing of fermented dairy products and dairy desserts

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- select the formulation of fermented dairy products and dairy desserts
- interpret a production schedule to ensure all resources and requirements are available and meet company requirements
- set the production system to operating specifications before and during production
- implement and supervise the production system for the preparation and manufacture of fermented dairy products and dairy desserts
- identify the potential product defects and their causes which may arise in the preparation and manufacture of fermented dairy products and dairy desserts
- determine and implement a system used to identify defects in the preparation and manufacture of fermented dairy products
- implement adjustments to process/equipment in response to system review
- report problems to designated person according to company policies and procedures
- overview the implementation of the HACCP plan
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations.
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge includes:

Knowledge of:

- types of fermented dairy products and dairy desserts
- statutory compositional requirements for the different types of fermented dairy and dairy desserts
- the role of major ingredients in fermented dairy milk products and dairy desserts
- the interrelationships between suppliers of products and internal/external customers
- domestic and export markets for fermented dairy products and dairy desserts
- processes used in the preparation and manufacture of fermented dairy products and dairy desserts
- sequence of processes used in the preparation and manufacture of fermented dairy products and dairy desserts
- the output of each of the processes used in the preparation and manufacture of fermented

dairy products and dairy desserts

- the production systems used for the preparation and manufacture of each fermented dairy and dairy dessert product, and the preferred sequence of activity to prepare the system for operation
- the critical factors in the preparation and manufacture of fermented dairy products and dairy desserts
- the resource requirements for the preparation and manufacture of fermented dairy products
- principles of operation of equipment and accessories used in the preparation and manufacture of fermented dairy products and dairy desserts
- potential product defects and their causes which may arise in the preparation and manufacture of fermented dairy products and dairy desserts
- the fermentation process as applied to dairy products
- formulation of fermented dairy products
- the potential product defects in fermented dairy products and dairy desserts and their causes
- testing procedures for raw materials through to manufactured product
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- chemical and physical hazards which may affect milk based products
- procedures for milk product storage, handling and preparation
- safe work procedures
- sanitation and hygiene procedures
- HACCP principles and critical limits in a HACCP program
- identification of Critical Control Points (CCPs) and critical limits
- water and energy use and recycling in processing
- regulatory requirements associated with fermented dairy products and dairy desserts
- environmental impacts of the food processing operation safe systems of work.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to implement and review the standards and procedures for manufacture of fermented dairy products and dairy desserts.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to implement production of fermented dairy products and dairy desserts including: monitoring process controls; diagnosing and reporting problems in manufacturing; carrying out sensory evaluation and product testing; and reviewing the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate conducting a range of processes and tests • Written and/or oral questioning to assess knowledge and understanding • Analysis of samples produced by the candidate • A report on a review of the production system.
<p>Guidance information for assessment</p>	<p>Evidence should be gathered over a period of time in a</p>

	range of actual or simulated environments.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labeling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements.
Materials and equipment	<p>Fermentation equipment may include water baths, cabinets, tunnels, multipurpose tanks, fermentation tanks.</p> <p>Materials used in fermentation may include raw materials/pre-processed materials to be fermented, starters such as single strain starters, multiple strain cultures, mixed strains.</p> <p>Market of products includes internal and external customers and suppliers.</p>
Fermented dairy products	Include crème fraiche, kefir, cultured buttermilk and yoghurt and quark.

Unit Sector(s)

Technical.

FDFST5025A Implement and review the production of concentrated and dried dairy products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to implement and review production standards and procedures for concentrated and dried dairy products.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the dairy processing sector. This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where **bold italicised** text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the manufacture of concentrated and/or dried milk and related products	1.1 The statutory compositional requirements for the different types of concentrated and/or dried milk and related products is established 1.2 The required formulation of concentrated and/or dried milk and related products is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the manufacture of concentrated and/or dried milk and related products to ensure quality standards are met	2.1 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.2 Production system is set to operating specifications before and during production 2.3 Data requirements appropriate for food safety, quality and production standards are interpreted 2.4 Data collection points consistent with equipment capabilities and data requirements are established 2.5 Procedures to deal with non-conformance in relation to process and the final product are interpreted or developed 2.6 Concentration and drying procedures are implemented and monitored 2.7 Process controls for the preparation and manufacture of concentrated and/or dried milk and related products are implemented and supervised
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of concentrated and/or dried milk and related products	3.1 Sensory evaluation and product testing protocols used to identify defects are established 3.2 A system used to identify defects in the preparation and manufacture of concentrated and/or dried milk and related products is applied 3.3 Adjustments to process and equipment, as identified, are implemented 3.4 Problems are reported to designated person according to company policies and procedures
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented for concentrated and dried dairy products 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken

ELEMENT

PERFORMANCE CRITERIA

- 4.5 Operating procedures are reviewed for food safety and quality
- 4.6 Safe work systems for processing of concentrated and dried dairy products are reviewed
- 4.7 Environmental impacts and energy efficiencies are reviewed for processing of concentrated and dried dairy products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- select the formulation of concentrated and dried dairy products
- interpret a production schedule to ensure all resources and requirements are available and meet company requirements
- set the production system to operating specifications before and during production
- implement and supervise the production system for the preparation and manufacture of concentrated and dried dairy products
- identify the potential product defects and non conformances and their causes which may arise in the preparation and manufacture of concentrated and dried dairy products
- implement adjustments to process/equipment in response to system review
- report problems to designated person according to company policies and procedures
- overview the implementation of the HACCP plan
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge includes:

Knowledge of:

- different types and formulation of concentrated and/or dried milk and related products
- production systems used for the preparation and manufacture of concentrated and/or dried milk and related products
- the output of each of the processes used in the preparation and manufacture of concentrated and/or dried milk and related products
- the major ingredients found in concentrated and/or dried milk and related products
- the interrelationships between suppliers of products and internal/external customers
- preparation and manufacture of concentrated and/or dried milk and related products including mix standardisation/ calculation, mixing /blending, homogenisation, heat treatment, packaging, and storage and distribution
- the production system for the preparation and manufacture of concentrated and/or dried milk and related products including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials

-
- critical factors in the preparation and manufacture of concentrated and/or dried milk and related products
 - potential product defects and their causes, which may arise in the preparation and manufacture of concentrated and/or dried milk and related dairy products
 - specific domestic and export market specifications for concentrated and/or dried milk and related products
 - quality and continuous improvement processes
 - sensory analysis techniques
 - chemical and physical hazards which may affect milk based products
 - sampling and testing techniques and analysis of data
 - procedures for milk product storage, handling and preparation
 - safe work procedures
 - sanitation and hygiene procedures
 - HACCP principles and critical limits in a HACCP program
 - identification of Critical Control Points (CCPs) and critical limits
 - water and energy use and recycling in processing
 - regulatory requirements associated with concentrated and dried dairy products
 - environmental impacts of the food processing operation
 - safe systems of work.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to implement and review production standards and procedures for concentrated and dried dairy products.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to implement manufacturing of concentrated and dairy products including:</p> <p>implementing process control procedures and data collection; diagnosing and reporting problems for manufacturing; carrying out sensory evaluation and product testing; and reviewing the concentrated and/or dried milk and related products production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • A report detailing the review of manufacturing concentrated and dried dairy products • Observation of candidate conducting a range of tests and procedures • Written and/or oral questioning to assess knowledge

	<p>and understanding</p> <ul style="list-style-type: none"> • Completing workplace documentation • Third party reports from experienced practitioner • Case studies • Field Reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements.
Materials and equipment	May include dairy/dairy product processing chemicals, dairy/dairy products processing equipment.
Dried dairy products	Include milk powders, whey powders and whey protein concentrates.
Concentrated dairy products	Include condensed milks, sweetened condensed milks, evaporated skim or whole milk, condensed buttermilk and condensed whey.

Unit Sector(s)

Technical.

FDFST5026A Implement and review the production of ice creams and frozen dairy products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to implement and review production standards and procedures for ice creams and frozen dairy products.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the dairy processing sector. This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the manufacture of ice creams and frozen dairy products	1.1 The statutory compositional requirements for the different types of ice creams and frozen dairy products is established 1.2 The required formulation of ice creams and frozen dairy products is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation are selected 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the preparation and manufacture of ice creams and frozen dairy products to ensure quality standards are met	2.1 Resource requirements for the preparation and manufacture of ice creams and frozen dairy products are identified and sourced 2.2 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.3 Production system is set to operating specifications before and during production 2.4 Chilling and refrigeration procedures are tested 2.5 Data requirements appropriate for food safety, quality and production standards are determined 2.6 Data collection points consistent with equipment capabilities and data requirements are established 2.7 Procedures to deal with non-conformance in relation to process and the final product are developed 2.8 Process controls for the preparation and manufacture of ice creams and frozen dairy products are implemented and supervised
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of ice creams and frozen dairy products	3.1 Potential product defects and their causes, which may arise in the preparation and manufacture of ice creams and frozen dairy products, are identified 3.2 Sensory evaluation and product testing protocols used to identify defects are established 3.3 A system to identify defects in the preparation and manufacture of ice creams and frozen dairy products is implemented 3.4 A sampling plan is developed and implemented for ice creams and frozen dairy products 3.5 Sensory analysis is conducted and analysed 3.6 Food tests are undertaken 3.7 Adjustments to process & equipment, as identified, are made 3.8 Problems are recorded and reported to designated person according to company policies and procedures
4. Review production	4.1 The critical control points (CCPs) and critical limits for product

ELEMENT

PERFORMANCE CRITERIA

processes

safety are reviewed

4.2 Operating procedures are reviewed for food safety and quality

4.3 Safe work systems for processing of ice creams and frozen dairy products are reviewed

4.4 Environmental impacts and energy efficiencies are reviewed for processing of ice creams and frozen dairy products

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- incorporate confectionary, flavourings and fruits into ice creams and frozen dairy desserts
- identify defects in the preparation and manufacture of ice creams and frozen dairy desserts
- implement adjustments to process/equipment in response to system review
- report problems to designated person according to company policies and procedures
- overview the implementation of the HACCP plan
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge

Knowledge of:

- types of ice creams and frozen dairy products
- the role of the major ingredients found in ice creams and frozen dairy products
- the production system for the preparation and manufacture of ice creams and frozen dairy products including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials
- the output of each of the processes used in the preparation and manufacture of ice creams and frozen dairy products
- the principles of operation of equipment and accessories used in the preparation and manufacture of ice creams and frozen dairy products
- the interrelationships between suppliers of products and internal/external customers
- specific domestic and export market specifications for ice creams and frozen dairy products
- different types and formulation of ice creams and frozen dairy products
- pretreatment, cooking and incorporation of confectionary, flavourings and fruits
- critical factors in the preparation and manufacture of ice creams and frozen dairy products
- identification of defects during production and of final products
- testing procedures for raw materials through to manufactured product
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques

- chemical and physical hazards which may affect ice creams and frozen dairy products
- storage, handling and preparation procedures for ice creams and frozen dairy products
- safe work procedures
- sanitation and hygiene procedures
- HACCP principles and critical limits in a HACCP program
- identification of Critical Control Points (CCPs) and critical limits
- water and energy use and recycling in processing
- regulatory requirements associated with ice creams and frozen dairy products
- environmental impacts of the food processing operation
- safe systems of work.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to implement and review production standards and procedures for ice creams and frozen dairy products.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Critical aspects of assessment must include evidence of the ability to implement manufacturing processes for ice creams and frozen dairy desserts including:</p> <p>implementing process control procedures and data collection; diagnosing and reporting problems in manufacturing; carrying out sensory evaluation and product testing of ice creams and frozen dairy products; and reviewing the production system for food safety and quality and environmental impact.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • A report detailing the review of manufacturing ice creams and frozen dairy products • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation

	<ul style="list-style-type: none"> • Third party reports from experienced practitioner • Case studies • Field Reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labeling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements.
Materials and equipment	May include dairy/dairy product processing chemicals, dairy/dairy products processing equipment.
Ice creams and frozen dairy products	Include frozen milks, custards, yoghurts and gelatos.

Unit Sector(s)

Technical.

FDFST5027A Implement and review the production of milk and related products by the membrane system

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review standards and procedures for milk and related products manufactured by the membrane system.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the dairy processing sector.</p> <p>This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
----------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor the manufacturing of milk and related products d by the membrane system, to meet quality standards	<ul style="list-style-type: none">1.1 Appropriate production systems are selected and the preferred sequence of activity to prepare the system for operation is determined1.2 Resource requirements for the preparations and production of milk and related products manufactured by the membrane system are established1.3 A production schedule to ensure all resources and requirements are available and meet company requirements is interpreted or developed1.4 The production system is set to the required operating specifications before and during production1.5 Data requirements appropriate for food safety, quality and production standards are documented1.6 Data collection points consistent with equipment capabilities and data requirements are established1.7 Procedures to deal with non-conformance in relation to process and the final product are applied or developed1.8 Process controls for the production of milk and related products manufactured by the membrane system are monitored
2. Diagnose, rectify and/or report problems arising from the manufacturing of milk and related products by the membrane system	<ul style="list-style-type: none">2.1 Methods used to identify defects are determined2.2 Systems used to identify defects in the production process are implemented2.3 A system to identify defects in the preparation and production of milk and related products manufactured by the membrane system is implemented, and adjustments applied to process/equipment as identified2.4 Problems are reported to designated person according to company policies and procedures
3. Review production processes	<ul style="list-style-type: none">3.1 The critical control points (CCPs) and critical limits for product safety are reviewed3.2 A sampling plan for products manufactured by the membrane system is developed and implemented3.3 Sensory analysis of products manufactured by the membrane system is conducted and analysed3.4 Food tests are undertaken3.5 Operating procedures are reviewed for the food safety and quality of products manufactured by the membrane system3.6 Safe work systems for processing of products manufactured by the membrane system are reviewed3.7 Environmental impacts and energy efficiencies are reviewed for

ELEMENT

PERFORMANCE CRITERIA

processing of products manufactured by the membrane system

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- determine the purpose of each process, and the principles of operation of equipment and accessories, for the preparation and production of each milk and related products manufactured by the membrane system
- determine the appropriate production system for the preparation and production of each milk and related products manufactured by the membrane system
- estimate the resource requirements for the preparation and production of milk and related products manufactured by the membrane system
- diagnose, rectify and/or report problems arising from the preparation and production of milk and related products manufactured by the membrane system
- implement adjustments to process/equipment in response to system review
- report problems to designated person according to company policies and procedures
- overview the implementation of the HACCP plan
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge includes:

Knowledge of:

- different types of milk and related products manufactured by the membrane system
- statutory compositional requirements for the different types of milk and related products manufactured by the membrane system
- specific domestic and export market requirements for milk and related products manufactured by the membrane system
- production systems used for the preparation and production of milk and related products manufactured by the membrane system
- operation of equipment and accessories used in the preparation and manufacturing processes of milk and related products manufactured by the membrane system
- output of each of the processes used in the preparation and production of milk and related products manufactured by the membrane system
- critical factors in the preparation and production of milk and related products manufactured by the membrane system

- potential problems and product defects arising from the preparation and production of milk and related products manufactured by the membrane system
- formulation of milk and related products manufactured by the membrane system
- role of major ingredients found in milk and related products manufactured by the membrane system
- testing procedures for raw materials through to manufactured product
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- chemical and physical hazards which may affect milk and related products manufactured by the membrane system
- procedures for milk product storage, handling and preparation
- safe work procedures
- sanitation and hygiene procedures
- HACCP principles and critical limits in a HACCP program
- identification of Critical Control Points (CCPs) and critical limits
- water and energy use and recycling in processing
- regulatory requirements associated with milk and related products manufactured by the membrane system
- environmental impacts of the membrane system
- safe systems of work

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Critical aspects of assessment must include evidence of the ability to implement processing of milk and related products manufactured by the membrane system including: implementing process control procedures and data collection; diagnosing and reporting problems for manufacturing; carrying out sensory evaluation and product testing; and</p> <p>reviewing the production system for food safety and quality and environmental impact.</p>
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • Tests used to report relevant product/process information and recorded results
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • Analysis of samples produced by the candidate • A report on review of the production system
Guidance information for assessment	<p>Evidence should be gathered over a period of time in a range of actual or simulated environments.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Legislation	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.</p> <p>International, Australian and State EPA protocols and regulations regarding effluent.</p>
Policies and procedures	<p>Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.</p>
OHS requirements	<ul style="list-style-type: none"> • legislation, regulations, Codes of practice • safety data sheets (SDSs) <p>enterprise and process specific occupational health and safety requirements</p>
Materials, equipment and systems	<p>Equipment may include centrifuges, heat exchangers, homogenisers, mixing vats, sanitary pumps, conveying belts, fillers and aseptic fillers, freezers and associated tanks, pipe work and valves.</p> <p>Membrane modules may be flat sheet (plate), spirally wound, hollow fibre, tubular and may have a symmetrical, asymmetric or composite asymmetric structure. Related equipment typically includes pipe work, valves and pumps, refrigeration equipment.</p>
Milk and related products	<p>Includes standardised milk, whole fresh milk, recombined milk, vitamised milk, irradiated milk, mineralised milk, reconstituted or rehydrated milk,</p>

RANGE STATEMENT	
	skimmed milk, heat treated or UHT milk, flavoured milks

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

FDFST5030A Develop, manage and maintain quality systems for food processing

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to develop, manage and maintain quality systems for food processing. It also covers the skills and knowledge needed to lead people, manage systems and build quality into all enterprise systems and operations. The development and management of quality systems affects the ability of the enterprise to operate in specific markets and influences customer and consumer confidence in enterprise products.

Application of the Unit

This unit applies to Quality Assurance (QA) managers and personnel, production managers and supervisors operating in a food processing context. At this level individuals exercise considerable responsibility and accountability within enterprise structures and are required to make primary contributions to the values, goals and operations of the enterprise. They will typically have responsibility for the establishment and review of systems for the site or department. They may work with the assistance of external experts to develop plans and strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish requirements of the quality system	1.1 Policies expressing the organisation's commitment to the quality system and processes are developed 1.2 Legislative requirements for enterprise quality systems are identified 1.3 Scope and objectives of the quality system are determined, including links with all enterprise operations, customers, suppliers and contractors 1.4 Quality performance standards, including customer and supplier service standards, are established consistent with the direction and goals of the enterprise 1.5 Resource requirements are identified and included in financial, human resource and operational plans
2. Design and prepare for the quality system	2.1 Quality systems are selected and designed to meet enterprise, customer and regulatory requirements 2.2 Quality principles are applied to all enterprise operations to achieve business goals and performance standards 2.3 Responsibilities for development, implementation and operation of the system are clearly defined and communicated 2.4 Personnel from all levels and areas of the organisation are involved in the development and implementation of the quality system 2.5 System components, procedures and supporting documentation are developed and validated 2.6 Consultative and communication strategies are developed to link the quality system with all aspects of enterprise operations 2.7 Supplier or contractor service standards and audit requirements are determined and negotiated 2.8 The quality system is designed and prepared for 2.9 Performance measures and indicators are developed to measure performance against policies, goals and performance standards
3. Implement and monitor the quality system	3.1 Implementation plan is prepared and resourced 3.2 Training plans to provide personnel at all levels with quality concepts and skills are prepared and resourced 3.3 Quality system requirements and customer focus are addressed in the establishment, operation and evaluation of all enterprise systems 3.4 Control and preventative action measures are identified and validated 3.5 Corrective action procedures are developed and monitored 3.6 Procedures for reporting, recording and responding to

ELEMENT	PERFORMANCE CRITERIA
	<p>non-conformances and non-compliances are established</p> <p>3.7 Customer and supplier service standards are monitored and documented</p> <p>3.8 Quality data is collected and analysed, and implications reported</p> <p>3.9 Quality costs and performance are monitored</p> <p>3.10 Quality system is prepared for external review and approval by relevant authorities</p>
<p>4. Continuously improve the quality system</p>	<p>4.1 Impacts of the quality system on enterprise operations are monitored and reviewed</p> <p>4.2 Responses to customer complaints and requests are resolved and used to improve the system</p> <p>4.3 Procedures for the ongoing identification and resolution of issues are established</p> <p>4.4 Quality system is updated for changes in process, technical information, customer and regulatory requirements</p> <p>4.5 Stakeholders are included in decision making and continuous improvement processes and strategies</p> <p>4.6 Quality results, findings and conclusions are fed into improvement processes</p> <p>4.7 Costs and benefits of the quality system are analysed</p> <p>4.8 Quality goals and targets are continuously reviewed</p>
<p>5. Communicate quality outcomes</p>	<p>5.1 Certification of product and processes consistent with quality outcomes is completed according to customer and regulatory requirements</p> <p>5.2 Regulatory authorities and agencies are promptly notified of breaches and non-compliance incidents</p> <p>5.3 Quality outcomes are used to promote public confidence in enterprise products and services</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- analyse complex statistical data and prepare corrective responses to non-conformances and variations identified in the data, relevant to enterprise quality systems and operations
- apply quality concepts and tools to problem-solving and the development of quality data collection, data management systems and analysis strategies
- apply substantial product and process knowledge to the development of the quality system and the interpretation of quality data
- communicate quality goals, requirements and findings to stakeholders in formats and styles appropriate to the context and purpose
- consult, negotiate with and report to regulatory authorities openly and promptly, consistent with enterprise ethical standards. This includes the notification of breaches and the preparation of non-compliance reports
- develop consultative and feedback procedures and opportunities for identification and resolution of quality issues and problems
- develop continuous improvement processes and team building using the 'plan, do, check, act' cycle
- develop quality policies for the enterprise in consultation with senior management and other stakeholders
- develop workforce commitment, capability and responsibility for the quality system. This involves identifying, negotiating and scheduling training, inclusion of responsibilities and duties relating to quality system implementation and integration in all job descriptions and work instructions, clear communication of responsibilities and requirements, delegation of tasks and responsibilities and inclusion of the workforce in consultative and continuous improvement processes
- ensure the quality system meets legislative and regulatory requirements
- exercise judgement, pragmatism and quality knowledge in the management and resolution of quality issues and problems
- identify and apply relevant OH&S and workplace requirements
- identify and describe process capability
- identify appropriate monitoring systems and strategies to support the enterprise quality system
- identify the applicable quality standards, regulations, codes, and legislation and customer requirements for the quality system and explain the implications for the enterprise
- identify research and update sources of quality information and advice including technical and regulatory information to support enterprise quality system
- lead personnel (e.g. Hazard Analysis Critical Control Point (HACCP) team, management, quality team, meat inspection team, laboratory, maintenance teams, processors and operators) in the implementation and improvement of the quality system
- monitor and analyse the costs of the quality system, including prevention costs, appraisal

costs, total quality costs and failure costs

- monitor and certify processes and product to meet third party requirements (eg importing country, public health requirements, customers)
- oversee audit processes (internal and external), act on audit findings and provide feedback to personnel for improvement of the system
- oversee the preparation for third party certification (where appropriate)
- plan and resource the enterprise training strategy, consistent with regulatory requirements to assist personnel at all levels in the implementation of the quality system
- prepare and sign off quality policies, manuals and documentation for the enterprise, including the preparation and updating of preventative, corrective and responsive procedures and strategies, supplier criteria and specifications, supplier and contractor audit requirements
- prepare quality implementation plans, identifying goals, key personnel and areas, resources, strategies, timelines and milestones
- present reports according to legal and enterprise requirements
- resolve customer complaints promptly and provide corrective action responses
- use appropriate questioning, observation, listening and recording skills in the collection and monitoring of quality data
- where quality systems are based on HACCP principles or good manufacturing practice, explain these principles and the implications for the enterprise quality system
- apply relevant communication and mathematical skills.

Required knowledge includes:

Knowledge of:

- the key concepts, philosophies and tools of quality management
- the management and organisational structure of the enterprise and its impact on enterprise systems
- the role audits play in a quality system
- documentation requirements of the quality system (including levels) and their roles in the functioning of the system, including the requirement for effective and secure quality record-keeping systems
- enterprise goals and directions and their implications for the quality system
- the legal requirements for the establishment and maintenance of the enterprise QA system including responsibilities for reporting breaches to authorities and implementing audit findings
- the principles and functions of hazard analysis and control, validation (including auditing) and verification in quality systems.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to develop, manage and maintain quality systems for food processing.</p> <p>Evidence is also required in the ability to lead people, manage systems and build quality into all enterprise systems and operations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency must be demonstrated in the ability to perform consistently at the required standard. In particular, assessors should look to see evidence of the ability to: develop and document quality system procedures to enterprise and legislative requirements; to implement the quality systems in a typical food production process including establishing responsibilities, training requirements and reporting arrangements; to collect and analyse process control data and other data and recommend quality system improvements; and to develop procedures to deal with non-conformance in relation to quality system requirements.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Production process and related equipment, manufacturers' advice and operating procedures • A food processing enterprise with documentation to support the implementation of a QA system • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.

Method of assessment	The following assessment methods are suggested: <ul style="list-style-type: none">• Observation of candidate carrying out product development and conducting a range of tests and procedures• Written and/or oral questioning to assess knowledge and understanding• Completing workplace documentation• Third party reports from experienced practitioner• Case studies• Field Reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Quality systems</p>	<p>These may include:</p> <ul style="list-style-type: none"> • Australian and New Zealand Food Standards • Food and meat industry sector specific standards • International standards e.g. ISO 9000 series • Personal Qualities Assessment (PQA) • Enterprise specific requirements.
<p>Requirements of the quality system</p>	<p>These may include:</p> <ul style="list-style-type: none"> • Codes of practice, regulations, Safety Data Sheets (SDSs) • control of documents, data, quality records • coverage of contracts, purchasing, supply, processing • handling, storage, processing, packaging, preservation, storage and delivery of food products • definition of management responsibilities • design and process controls • inspecting and testing, control of non-conforming • product, preventative and corrective action, auditing • management of links and impacts on all systems within the enterprise • production identification and traceability • training.
<p>Systems components and procedures</p>	<p>These may include:</p> <ul style="list-style-type: none"> • correction e.g. disposition, corrective action, liability management, customer complaint resolution • prevention e.g. training, operator feedback, manuals, technology and equipment reliability and maintenance, statistical collection and information, supplier QA, Standard Operating Procedures (SOPs) and work instructions.
<p>Statistical data analysis</p>	<p>This may include:</p> <ul style="list-style-type: none"> • correlation and regression analysis, bi-variate and multivariate analysis • distribution theory • estimating and hypothesis testing

	<ul style="list-style-type: none"> • probability and statistical inference • process stability, capability and management • reliability planning • sampling • statistical process control requirements, charting applications • variations and variation monitoring.
Quality tools	These may include cause and effect and fish bone diagrams, control charts, data points, flow charts, histograms, prioritisation matrices, process improvement models, process capability, pareto charts and team structures.
Data management systems	These may be manual or computerised and cover data collection, data monitoring and data analysis and interpretation.
Data analysis and interpretation	<p>This may include:</p> <ul style="list-style-type: none"> • Acceptable Quality Level (AQLs) • Chemical Lean (CL) levels • microbiological analysis, eg Total Viable Counts (TVC), e-coli counts • process capability analysis • process variation analysis • product monitoring • statistical process control • temperature eg cooling and chilling rates.
Documentation for the QA process for food safety	<p>This may include:</p> <ul style="list-style-type: none"> • amendment registers • Critical Control Points (CCPs) monitoring forms and additional monitoring requirements and supporting programs • CCP work instructions • HACCP audit table • HACCP team register, product description and use • process flow charts, factory floor plan, hazard analysis table • schedules relating to hygiene, cleaning and sanitation • procedures, work instructions, approved chemicals • calibration, pest control, training, product identification and recall.
Legislation	<ul style="list-style-type: none"> • Australian and international standards • Acts of Federal and State Parliament

	<ul style="list-style-type: none"> • State and territories’ food regulations • International, Australian and State environmental protocols and regulations regarding effluent.
OHS requirements	<ul style="list-style-type: none"> • Codes of practice, regulations, safety data sheets (SDSs) • Enterprise and process specific OHS requirements.
Regulatory requirements	<p>These may include:</p> <ul style="list-style-type: none"> • animal welfare • commercial law including fair trading, trade practices • consumer law • corporate law, including registration, licensing, financial • reporting • environmental and waste management • equal opportunity, anti-discrimination and sexual harassment • Legislation • hygiene and sanitation requirements • industrial awards, agreements • relevant regulations • state regulations regarding food processing • taxation.
Process capability	<p>This includes:</p> <ul style="list-style-type: none"> • operational capability (resources, risks, opportunities, commitments) • technical capability (personnel, equipment, systems, suppliers).
Monitoring systems and strategies	<p>These may include:</p> <ul style="list-style-type: none"> • audits and reviews • feedback from stakeholders • inspection and testing procedures and regimes (including chemical and microbiological testing procedures) for validation and verification • statistical collection and analysis.
Third party certification	<p>This includes:</p> <ul style="list-style-type: none"> • regulatory agencies • accountabilities, inspection stamps/seals • customer requirements and specifications • importing country requirements • licensing or registration requirements

	<ul style="list-style-type: none">• national or international quality endorsement• product description and certification.
--	--

Unit Sector(s)

Technical.

FDFV2001A Apply hydro-cooling processes to fresh produce

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to use hydro-cooling equipment and processes to cool fresh fruit or vegetables in preparation for storage or transportation.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a food processing environment or at a farm or production site where produce is processed directly after harvest to maximise longevity. Where work is undertaken in a cool storage environment, also consider FDFOP2007A Work in a freezer storage area.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine requirements for hydro-cooling	1.1. Key steps in the process of hydro-cooling are identified 1.2. Impact of timing and temperature on the hydro-cooling process are identified 1.3. Produce for hydro-cooling is identified and specific cooling and transfer requirements confirmed 1.4. Consequences of incorrect hydro-cooling are identified 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements 1.7. Goods are located in correct storage areas to meet storage temperature, stores handling and stock rotation requirements 1.8. Stores information is recorded according to workplace requirements
2. Conduct hydro-cooling	2.1. Storage facility is checked for readiness and allocation of space for produce confirmed 2.2. Handling equipment is used to transfer produce in a manner that is safe and maintains produce quality 2.3. Operating parameters for hydro-cooling equipment are set as required to meet safety and cooling requirements 2.4. Hydro-cooling is applied to produce 2.5. Produce is transferred to storage 2.6. Process information is recorded according to workplace requirements 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines
3. Monitor hydro-cooling process	3.1. Process is monitored to ensure quality standards are achieved 3.2. Temperature is checked to ensure required levels are maintained 3.3. Non-compliances or problems are promptly identified and acted upon

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to determine cooling and storage requirements
- identify processing requirements, including temperature limits and timing requirements
- identify key stages of cooling process
- select, fit and use personal protective clothing and/or equipment
- use materials handling equipment as required to undertake work functions
- follow procedures to measure temperature of produce, such as using instrumentation as required to take core and surface temperatures
- read instrumentation, such as temperature gauges, to monitor temperatures
- identify and report out-of-specification temperatures in produce and storage facilities
- take corrective action in response to out-of-specification temperatures, including implementation of procedures to segregate damaged or potentially unsafe produce
- complete records of stock receipt and transfer as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- occupational health and safety (OHS) hazards and controls, including the purpose and limitations of protective clothing and equipment
- hydro-cooling facilities and capacities available in the work area
- temperature control requirements of produce handled in the work area, including acceptable temperature ranges, consequences of failing to meet these ranges, and requirements for gradual temperature change
- handling procedures for receiving and locating produce including procedures for identifying, segregating and disposing of damaged or potentially unsafe stock
- stock handling procedures for transferring cooled stock from a temperature controlled environment, including the maximum duration stock can be held outside a controlled environment
- food safety and quality consequences of stock temperature control requirements not being met

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• monitoring procedures and instrumentation, including the use of thermometers or other temperature measuring instrumentation• notification, recording and reporting requirements• operating procedures for goods handling equipment as required• housekeeping requirements for work area• recording requirements and procedures |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify handling, hydro-cooling and storage requirements of produce • monitor temperature to ensure standards are maintained • handle and transfer produce to maintain required conditions • identify and act on non-conformances • complete workplace documentation • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • hydro-cooling specifications and facilities • produce requiring cooling • load shifting equipment as required • stock information recording system and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • TLIA1707C Apply product knowledge to complete work operations • TLID107C Shift materials safely using manual handling methods • TLID1007C Operate a forklift • TLIK107C Use infotechnology devices and computer applications in the workplace.

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports

Unit Sector(s)

Unit sector	Fruit and vegetables
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFV3001A Conduct chemical wash for fresh produce

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to implement a wash process for fresh produce, where chemicals, such as chlorine, are used to achieve quality standards.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a food processing production environment. It typically targets the production worker responsible for setting and monitoring levels of cleaning chemicals, such as chlorine, while conducting wash operations. This unit typically applies for produce such as leafy greens and fruit where chemicals are used to ensure required cleaning outcomes.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm required use of chemicals	1.1. Chemicals used for the washing of fresh produce are identified and required levels confirmed 1.2. Risks associated with using chemicals are identified and control measures implemented throughout operations 1.3. Implications of incorrect chemical levels on fresh produce are identified 1.4. Storage and handling requirements for chemicals are identified
2. Prepare for washing operation	2.1. Raw materials are confirmed and prepared for washing 2.2. Equipment is confirmed for operational readiness and components and related attachments fitted and adjusted as required 2.3. Pre-start checks are carried out as required by workplace requirements 2.4. Chemicals are measured and dose added according to specifications 2.5. Performance of chemical dosing equipment is checked to confirm accuracy 2.6. Water quality is checked and confirmed for use
3. Operate and monitor the washing process	3.1. The washing process is started and operated according to workplace procedures 3.2. Raw materials are inspected and washed to meet workplace specifications 3.3. Water is checked to confirm correct levels of chemicals 3.4. Washed materials are transferred for further processing or packaging 3.5. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 3.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 3.7. The work area is maintained according to housekeeping standards 3.8. Work is conducted in accordance with workplace environmental guidelines 3.9. Workplace records are maintained according to

ELEMENT	PERFORMANCE CRITERIA
	workplace recording requirements
4. Shut down the washing process	4.1. The appropriate shutdown procedure is implemented 4.2. Chemicals are handled, stored and disposed of according to workplace environmental standards 4.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

Required knowledge

Knowledge of:

- purpose and basic principles of the washing process, including the importance of water quality and the role of chemicals in the washing process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services (principally water) required and action to take if services are not available
- the flow of this process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the washing, including the consequences of out-of-specification moisture levels on further processing and final product
- quality requirements of raw materials and effect of variation on process performance, including how variation in microbial load can affect the washing process
- operating requirements, parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the washing process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for washing • handle and apply chemicals according to specifications • start, operate, monitor and adjust process equipment to achieve required quality outcomes • conduct water and chemical checks • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications and inspection or control points • washing equipment and services, including water and chemicals • raw materials to be processed • sampling schedules and test procedures and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Washing equipment	<p>Washing equipment may include:</p> <ul style="list-style-type: none"> • wash baths • tanks • flumes • pumps • hoses
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT

Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • water • compressed and instrumentation air
-----------------	---

Unit Sector(s)

Unit sector	Fruit and vegetables
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFV3002A Program fresh produce grading equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to program grading equipment to identify key characteristics of fresh produce and sort accordingly.
------------------------	--

Application of the Unit

Application of the unit	This unit covers grading conducted by mechanical and computer-based technology to sort fresh fruit and vegetables according to key characteristics, such as size, weight, density, quality or colour.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm produce grading specifications	1.1. Features of the grading equipment and process are described 1.2. Characteristics of produce are examined and purpose for grading confirmed 1.3. Customer and packaging requirements are confirmed 1.4. Specifications for grading are determined
2. Program grading equipment	2.1. Specifications are entered into computer to set grading parameters 2.2. Computer program or equipment components are used effectively to enable a variety of grading outcomes to be achieved 2.3. Program or equipment operation is tested or monitored to ensure standards are achieved 2.4. Problems or inconsistencies in grading outcomes are investigated to determine cause and corrective action implemented 2.5. Documentation is completed and records of grading specifications for customer are recorded

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify characteristics of produce used to determine grading requirements
- use computer software or mechanical equipment to establish and set grading specifications
- identify and apply the quality assurance systems in place to ensure that grading meets customer requirements
- identify problems that occur in the grading process and investigate likely causes
- determine appropriate corrective action to prevent grading non-conformance
- describe the purpose of grading and processes implemented by grading equipment to achieve specific grading outcomes
- identify typical problems that occur in the grading process, and outline likely causes and appropriate response options within level of responsibility
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- grading equipment processes and technologies
- characteristics of produce used for grading and the process of identification
- factors that influence grading outcomes
- typical problems that occur in the grading process, and likely causes and appropriate response options

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • analyse grading requirements and confirm specifications for grading equipment • determine grading specifications for a variety of outcomes • use computing or mechanical technology to achieve grading specifications • verify program specifications for required outcomes • analyse non-conformances and grading problems and determine probable cause.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • grading specifications • produce, grading equipment and consumables • relevant standard operating procedures (SOPs) • communication systems • workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Product packaging and related work processes are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • cameras • infra-red lights • lasers • temperature gauges • conveyor belts
Grading purpose	<p>Grading purpose may include:</p> <ul style="list-style-type: none"> • singulation • rotation • sorting • quality control

Unit Sector(s)

Unit sector	Fruit and vegetables
--------------------	----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDGPS2001A Operate a bleaching process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a bleaching process to remove colour and impurities from partially refined oil.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of bleaching equipment and processes. Processes may be batch or continuous and apply to single or multiple product types.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out unit FDFOP2011A Conduct routine maintenance should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the bleaching equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the bleaching process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that bleached oil meets colour specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the bleaching process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify bleaching process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary oil, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming availability of tank space, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for bleaching process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust bleaching process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time/temperature
 - contact time and agitation
 - air contact
 - product quality
- monitor supply and flow of materials to and from the bleaching process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take bleaching process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the bleaching process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the bleaching process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the bleaching process
- quality requirements of materials and effect of variation in oil quality on bleaching process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the bleaching process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the bleaching process and the related procedures and recording requirements
- contamination/food safety risks associated with the bleaching process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the bleaching process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the bleaching process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with bleaching process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for bleaching oil products • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • bleaching process and related equipment and services • oil, catalyst and filter aid as required by the bleaching process used • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2011A Conduct routine maintenance • FDFOP2004A Clean and sanitise equipment • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Bleaching equipment	Bleaching equipment may include: <ul style="list-style-type: none"> holding/storage tanks bleaching vessel pump heat exchanger filter system
Materials	Materials used in bleaching may include: <ul style="list-style-type: none"> neutralised oil bleaching earth filter aid filter cloths papers and bags

RANGE STATEMENT	
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGPS2002A Operate a complecting process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a complector used to produce pastry margarine.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of complecting equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the complector and related equipment for operation</p>	<p>1.1. Oil stock and emulsion are available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the complector process</p>	<p>2.1. The complector is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that specifications are met</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of flake for further processing
- conduct pre-start checks on complector and related equipment, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - temperatures
 - work input
 - rest times
 - tepid water temperatures
 - throughput
 - vacuum
 - packing speed
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- demonstrate batch/product changeovers
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures, such as organoleptic tests
- package finished pastry margarine according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- principles of preparing pastry margarine using a complector, including a basic understanding of crystallisation, the relationship between stages of crystal formation, work input and temperature; and the purpose and requirements of a holding stage
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of this process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the final pastry margarine (this will vary according to types of pastry margarine produced)
- quality requirements of flake used and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- product/process changeover procedures and responsibilities
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection, and handling procedures related to the process and procedures for containing spills
- basic operating principles of process control, where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• operating procedures for related packaging equipment where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for compecting • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • complector and related equipment and services • flake to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications/recipes • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • tanks and hoppers • complector and packing equipment
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p>

RANGE STATEMENT	
	<ul style="list-style-type: none"> • power • steam • vacuum • water • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGPS2003A Operate a deodorising process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a deodorising process to remove the disagreeable flavours and odours from product.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of deodorising equipment and processes. Processes may be batch or continuous and apply to single or multiple product types.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the deodorising equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the deodorising process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that odour and flavour specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the deodorising process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify deodorising process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary oil, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming availability of tank space, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for deodorising process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust deodorising process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time/temperature
 - vacuum pressure
 - steam flow/quantity
 - air contact
 - product quality
- monitor supply and flow of materials to and from the deodorising process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take deodorising process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the deodorising process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the deodorising process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the deodorising process
- quality requirements of materials and effect of variation in oil quality on deodorising process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the deodorising process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the deodorising process and the related procedures and recording requirements
- contamination/food safety risks associated with the deodorising process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the deodorising process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the deodorising process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with deodorising process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for deodorising
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- deodorising process and related equipment and services
- oil to be deodorised
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Deodorising equipment	<p>Deodorising equipment may include:</p> <ul style="list-style-type: none"> • tanks • pumps • deodoriser • vapour condenser • steam injection system • vacuum system • cooling heat exchanger
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • bleached and neutralised oil • citric acid • hydrogenated oil

RANGE STATEMENT	
	<ul style="list-style-type: none"> • filter bags
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFGPS2004A Operate a flake preparation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prepare the oil and water phases and set up, operate, adjust and shut down the flaking process to prepare pastry margarine for further processing through a complector.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of flake preparation equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare oil and emulsion phases	1.1. Oil requirements are identified and oil is transferred to meet production requirements 1.2. Ingredients for addition are confirmed and available in required quantities 1.3. Ingredients are added to oil phase to meet recipe specifications 1.4. Oil stock is drawn to make emulsion 1.5. Ingredients are added to water phase to meet recipe specifications 1.6. Oil stock and emulsion meet specifications
2. Prepare the drum and flaking equipment for operation	2.1. Oil stock and water phase are available to meet operating requirements 2.2. Cleaning and maintenance requirements and status are identified and confirmed 2.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 2.4. Processing/operating parameters are entered as required to meet safety and production requirements 2.5. Equipment performance is checked and adjusted as required 2.6. Pre-start checks are carried out as required by workplace requirements
3. Operate and monitor the flaking process	3.1. The process is started and operated according to workplace procedures 3.2. Equipment is monitored to identify variation in operating conditions 3.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 3.4. The process is monitored to confirm that specifications are met 3.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 3.6. The work area is maintained according to housekeeping standards 3.7. Work is conducted in accordance with workplace environmental guidelines 3.8. Workplace records are maintained according to

ELEMENT	PERFORMANCE CRITERIA
	workplace recording requirements
4. Shut down the flaking process	4.1. The appropriate shutdown procedure is identified 4.2. The process is shut down according to workplace procedures 4.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify oil and emulsion phase preparation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary oil type, ingredients for addition and services
- prepare oil and water phase according to procedures
- prepare emulsion according to procedures
- conduct pre-start checks on refrigeration and flaking process, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning valves and sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - operation of addition/dosing equipment
 - drum speed
 - emulsion temperature
 - ammonia suction temperature
 - flake thickness
 - flake temperature
 - moisture level
 - salt level
 - evenness of curtain fall
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- demonstrate batch/product changeovers
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards

REQUIRED SKILLS AND KNOWLEDGE

- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- principles of forming a water in oil emulsion, including an understanding of the types of emulsifiers used
- purpose and basic principles of the flaking process, including a basic understanding of stages of crystallisation of oil types used
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of flaking process and the effect of outputs on downstream processes
- quality characteristics to be achieved by each stage (oil phase, water phase and refrigeration/flaking process)
- quality requirements of oil and ingredients used and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures, including the risk of cross-contamination where tempered product mixes with untempered product
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the risks of working with ammonia and procedures to follow in the event of a leak
- product/process changeover procedures and responsibilities
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage

REQUIRED SKILLS AND KNOWLEDGE

- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process and procedures for containing spills
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for flake preparation • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • oil and water phase preparation equipment and services • drum and flaking equipment • oil and ingredients as required • sampling schedules and test procedures and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	<p>procedures</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • PMLTEST300B Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications/recipes • production schedules and instructions • manufacturers' advice • standard forms and reports
Preparation and processing equipment	<p>Preparation and processing equipment may include:</p> <ul style="list-style-type: none"> • tanks • heat exchangers • ingredient addition systems • brine and tepid water loops • refrigeration system • flaking/drum
Stages for oil phase	<p>Stages for oil phase typically include:</p> <ul style="list-style-type: none"> • oil transfer and pasteurisation • addition of ingredients, such as emulsifiers and other ingredients as required <p>Stages for emulsion stage typically include</p>

RANGE STATEMENT	
	addition of brine and water to oil stock and addition of other ingredients as required. The emulsion is then transferred to the flaking process
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam water refrigeration compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFGPS2005A Operate a fractionation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the fractionation process to separate edible oils into two or more liquid and solid parts, each with distinct physical and chemical properties.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a fractionation process. Processes may be batch or continuous, and apply to single or multiple product types.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the fractionation equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the fractionation process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that fractionation product meets melting point specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the fractionation process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify fractionation process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary oil, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming availability of tank space, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for fractionation process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust fractionation process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time/temperature
 - flow rates
 - vacuum
 - product quality
- monitor supply and flow of materials to and from the fractionation process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take fractionation process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the fractionation process, including a basic understanding of the chemical structure of oil and the effect of fractionation on this structure
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the fractionation process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the fractionation process
- quality requirements of oil for fractionation and effect of variation on fractionation process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the fractionation process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the fractionation process and the related procedures and recording requirements
- contamination/food safety risks associated with the fractionation process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the fractionation process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the fractionation process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with fractionation process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for fractionation • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • fractionation process and related equipment and services • oil and chemicals required for the fractionation process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Fractionation equipment	<p>Fractionation equipment may include:</p> <ul style="list-style-type: none"> • tanks • crystallisation/seeder vessel • separators • pumps • heat exchanger
Fractionation methods	<p>Fractionation methods may include:</p> <ul style="list-style-type: none"> • dry, solvent and detergent-based processes
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • crude tallow • detergent
Operation of equipment and	Operation of equipment and processes may

RANGE STATEMENT	
processes	require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam vacuum water compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGPS2006A Operate a hydrogenation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a hydrogenation process to improve the hardness, viscosity, flavour and shelf-life of oils.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a hydrogenation process. Processes may be batch or continuous, and apply to single or multiple product types.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the hydrogenation equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the hydrogenation process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that hydrogenated product meets melting point and fat profile specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the hydrogenation process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify hydrogenation process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary oil, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming availability of tank space, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for hydrogenation process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust hydrogenation process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - oil temperature
 - vacuum pressure
 - hydrogenation quantity and agitation
 - reaction rates
 - flow rates/quantity
 - air contact
 - product quality
- monitor supply and flow of materials to and from the hydrogenation process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take hydrogenation process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as

REQUIRED SKILLS AND KNOWLEDGE

specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge***Knowledge of:***

- purpose and basic principles of the hydrogenation process, including a basic understanding of the chemical structure of oil and the effect of hydrogenation on this structure
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the hydrogenation process and the effect of outputs on downstream edible oils and fats processes
- quality characteristics to be achieved by the hydrogenation process
- quality requirements of oil, catalyst and filter aid as used and effect of variation on hydrogenation process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the hydrogenation process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the hydrogenation process and the related procedures and recording requirements
- contamination/food safety risks associated with the hydrogenation process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including an understanding of the hazards associated with the use of hydrogen
- requirements of different shutdowns as appropriate to the hydrogenation process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- hydrogenation process changeover procedures and responsibilities
- environmental issues and controls relevant to the hydrogenation process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• sampling and testing associated with hydrogenation process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for hydrogenation • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • hydrogenation process and related equipment and services • oil, catalyst and filter aid as required for the hydrogenation process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Hydrogenation equipment	<p>Hydrogenation equipment may include:</p> <ul style="list-style-type: none"> • tanks • pumps • hydrogenation autoclave (reactor) • vacuum system • hydrogen supply system • filtration system • heat exchangers
Materials	<p>Materials used in hydrogenation may include:</p> <ul style="list-style-type: none"> • neutralised and bleached oils • catalyst • hydrogen

RANGE STATEMENT	
	<ul style="list-style-type: none"> • filter aid • filter papers • cloths • bags
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • vacuum • water • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

Co-requisite units		

FDGPS2007A Operate an interesterification process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down an interesterification process to rearrange the chemical composition of oil molecules.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a interesterification process. Processes may be batch or semi-continuous or continuous and apply to single or multiple product types.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the interesterification equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the interesterification process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that product modification meets melting point and odour specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the interesterification process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

Required knowledge

Knowledge of:

- purpose and basic principles of the interesterification process, including a basic understanding of the chemical structure of oil and the effect of interesterification on this structure
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the interesterification process and the effect of outputs on downstream edible fats and oils processes
- quality characteristics to be achieved by the interesterification process
- quality requirements of materials and effect of variation on interesterification process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the interesterification process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the interesterification process and the related procedures and recording requirements
- contamination/food safety risks associated with the interesterification process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the interesterification process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the interesterification process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with the interesterification process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for interesterification • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • interesterification process and related equipment and services • deodorised oil required for interesterification and related catalyst • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Interesterification equipment	<p>Interesterification equipment may include:</p> <ul style="list-style-type: none"> • tanks • reactor • washing/drying vessel • pumps • filter system <p>Separators (centrifuges) may also be used to separate oil from wash water</p>
Materials	<p>Materials used in interesterification may include:</p> <ul style="list-style-type: none"> • catalyst • wash water
Operation of equipment and	Operation of equipment and processes may

RANGE STATEMENT	
processes	require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam vacuum water compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGPS2008A Operate a neutralisation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a neutralisation process to remove impurities from crude oils.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a neutralisation process. Processes may be batch or continuous, and apply to single or multiple product types.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the neutralisation equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.4. Equipment performance is checked and adjusted as required</p> <p>1.5. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the neutralisation process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that neutralised product meets soap target specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the neutralisation process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify neutralisation process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary oil, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming availability of tank space, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for neutralisation process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust neutralisation process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - oil temperature
 - pressures
 - flow rates/quantity
 - chemical dosage rate
 - product quality
- monitor supply and flow of materials to and from the neutralisation process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take neutralisation process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the neutralisation process, including the type of alkali used, and the degumming process to prepare oil for neutralisation
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the neutralisation process and the effect of outputs on downstream edible oils and fats processes
- quality characteristics to be achieved by the neutralisation process
- quality requirements of inputs and effect of variation in oil quality on neutralisation process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the neutralisation process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the neutralisation process and the related procedures and recording requirements
- contamination/food safety risks associated with the neutralisation process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the neutralisation process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- neutralisation process changeover procedures and responsibilities
- environmental issues and controls relevant to the neutralisation process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with neutralisation process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for neutralisation
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- neutralisation process and related equipment and services
- oil required for the neutralisation process and acid and alkali materials as required by the process
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Neutralisation equipment	Neutralisation equipment may include: <ul style="list-style-type: none"> • tanks • pumps • centrifugal separators • vacuum dryer • chemical addition system • heat exchanger
Materials	Materials used in neutralisation may include: <ul style="list-style-type: none"> • crude oil • hot water • phosphoric acid • sodium hydroxide

RANGE STATEMENT	
	<ul style="list-style-type: none"> • citric acid
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • vacuum • water • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFGPS2009A Operate a soap splitting process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a soap splitting process. This may also be referred to as an acid oil process. It covers the splitting of soap stock into an acid oil stream and an acid water stream.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a soap splitting process.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the equipment and soap splitting process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Machine components are adjusted to meet operating requirements 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the soap splitting process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm separation of acid oil and acid water streams 2.5. The work area is maintained according to housekeeping standards 2.6. Work is conducted in accordance with workplace environmental guidelines 2.7. Workplace records are maintained according to workplace recording requirements
3. Shut down the soap splitting process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify soap stock processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of soap stock, acid and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, correctly configured for processing requirements, cancelling isolation or lock outs as required, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm service supply
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - pH and temperature of reactors
 - pH and temperature of acid water
 - acid addition
 - tank levels
 - colour of acid oil
 - colour of acid water (minimum fatty matter in acid water stream)
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- prepare acid oil for loading and delivery
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment; pH rises and temperature drops
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of soap splitting, including an understanding of the process used to split soap stock and the end uses of each stream
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of this process and the effect of outputs on downstream processes, including the impact of acid water pH on the performance of the effluent plant and impact of allowing 'fatty' acid water to flow downstream
- requirements of acid oil and acid water streams to be achieved
- the effect of variation in soap stock on the soap splitting process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, including the purpose and methods used to conduct relevant tests (tests typically include pH, moisture and FFA)
- contamination risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including hazards associated with handling hazardous substances
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for soap splitting • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • process and related equipment and services • materials to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice <p>standard forms and reports</p>
Soap splitting/acidification equipment	<p>Soap splitting/acidification equipment typically includes:</p> <ul style="list-style-type: none"> • pumps • reactors • acid and steam addition systems • settling tanks
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGPS2010A Operate a winterisation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a winterisation process to remove waxes from partially refined oil.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in an edible oils production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a soap splitting process.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the winterisation equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the winterisation process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that winterised product meets cold test specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the winterisation process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify winterisation process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary oil, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming availability of tank storage space, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for winterisation process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust winterisation process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - temperature
 - vacuum
 - flow rates
 - tank levels
 - filter aid addition
 - product quality
- monitor supply and flow of materials to and from the winterisation process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take winterisation process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for

REQUIRED SKILLS AND KNOWLEDGE

clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the winterisation process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the winterisation process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the winterisation process
- quality requirements of oil to be winterised and effect of variation on winterisation process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the winterisation process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the winterisation process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the winterisation process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the winterisation process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with winterisation process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for winterisation
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- winterisation process and related equipment and services
- deodorised oil and filter aid as required for winterisation
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Winterisation equipment	Winterisation equipment may include: <ul style="list-style-type: none"> • tanks • pumps • chilling unit • winterising vessel • filtration equipment • filter aid addition system
Materials	Materials used in winterisation may include: <ul style="list-style-type: none"> • deodorised oil • filter aid • filter cloths • papers and/or bags

RANGE STATEMENT	
Processes	Processes may be: <ul style="list-style-type: none"> batch or continuous and apply to single or multiple product types
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam vacuum water compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGPS2011A Operate a creamed honey manufacture process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, monitor, and adjust a process to produce creamed honey.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a production environment within the honey processing industry. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to cream honey.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the equipment and process for operation	1.1. Liquid and seed honey is confirmed and available to meet production requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are set to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the creamed honey manufacture process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the creamed honey manufacture process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including selecting appropriate seed honey (it may also require selection of more than one liquid honey to meet required product characteristics)
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters (temperature and agitation settings), cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- demonstrate batch/product changeovers according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- basic principles of crystallisation, including an understanding of crystal structure and where appropriate, methods used to reduce crystal size, the effects of temperature and agitation on crystal formation, appropriate ratio of seed to liquid honey and factors that influence the crystallisation process including moisture content and crystal size
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- quality and organoleptic characteristics of different types of honey processed
- quality characteristics to be achieved by the final product and related test methods used to confirm quality
- quality requirements of seed and liquid honey used and the effect of variation on the final product
- operating requirements, parameters and corrective action required where the process is outside specified operating parameters (typical operating parameters include ambient and processing temperatures, agitation speeds and holding times and temperatures)
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor each stage of the production process, such as inspecting, measuring and testing as required
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures (this relates specifically to air inclusion and moisture content and related methods of control)
- common causes of variation and corrective action required
- factors that affect the stability and shelf-life of the finished product and options to extend shelf-life, including storage conditions for packed product
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- product/process changeover procedures and responsibilities where relevant

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for creaming honey • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • process and related equipment and services • seed and liquid honey • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications/recipes production schedules and instructions manufacturers' advice standard forms and reports
Production processes	<p>Production processes may be partly or fully automated. While processes vary, typical stages include:</p> <ul style="list-style-type: none"> addition of seed honey holding mixing/working temperature control
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> jacketed tanks/vats

RANGE STATEMENT	
	<ul style="list-style-type: none"> • buffer tanks • mixers/homogenisers • scraped surface heat exchangers • agitators and pumps
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • water • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grocery products and supplies
--------------------	-------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGR2001A Operate a liquid, mash or block stockfeed process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down process equipment used to produce liquid, mash or block stockfeed.
------------------------	--

Application of the Unit

Application of the unit	This unit relates to the production of liquid, mash and block stockfeeds by a plant operator for a variety of animal species and animal production requirements. Stockfeeds can be standard products or to particular customer specification.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the liquid, mash or block feed process	2.1. The process is started and operated according to workplace procedures and occupational health and safety (OHS) requirements 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary feed, micronutrients and other additives, other required liquid ingredients and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate dies and/or roll settings where required, setting processing parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required at each stage of the mash, liquid or block to confirm process remains within specification
- monitor supply of feed and liquid to and from the mash, liquid or block production process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- purpose and basic principles of each part of the process, such as volumetric metering, mixing, steam conditioning, pouring, pressing, cooling, adding and mixing in micronutrient and other additives to achieve specified proportions, sequencing of production to minimise transference and cross-contamination, and traceability procedures
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment
- the flow of the stockfeed production process and the effect of outputs on downstream processes
- quality characteristics and uses of finished stockfeed
- effect of variation in inputs and/or services on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- the effect on final product of variation in variables, such as:
 - oil and fat content
 - micronutrient and additive
 - consistency and appearance of mash, liquid or block feed
 - retention time and temperatures for steam conditioning, including consequences of temperatures that are too high and too low on chemical composition
 - retention time and temperature for liquid addition
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the mash, liquid or block feed process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- contamination risks and related controls
- OHS hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities associated with process monitoring and control
- routine maintenance procedures
- cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• procedures and responsibility for reporting production and performance information• environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process• sampling and testing where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Evidence is required in the ability to operate a mash, liquid or block stockfeed production process according to OHS, quality and formulation requirements.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify and interpret production and customer requirements for mash, liquid or block stockfeed • operate and monitor production equipment to ensure consistency and quality of output • add and mix ingredients, micronutrients and additives as required • liaise with nutritionist and other professional and technical staff on composition requirements of stockfeed • follow all OHS, quality and contamination avoidance procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to relevant resources. The candidate is to be assessed on knowledge and skills relevant to the mash, liquid or block stockfeed products and processes in the workplace.</p>
<p>Method of assessment</p>	<p>Evidence may include direct observation, third party report, portfolio, work documentation, response to questions, and so on that address the performance criteria and critical aspects for assessment.</p>
<p>Guidance information for assessment</p>	<p>Performance against this standard must be assessed in an industry context. For valid and reliable assessment the activity should closely replicate the work environment, circumstances and equipment likely to be encountered in a workplace.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Legislative requirements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:

- the Food Safety Code, including labelling, weights and measures legislation
- legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production schedules and instructions
- manufacturers' advice
- standard forms and reports

Equipment

Equipment covered by this unit may include:

- feed screws and related feed transfer equipment
- steam conditioners
- pumps and holding tanks
- mixers, augers, blocks, dies and moulds
- heating and cooling equipment
- labelling machines

Liquid feed

Liquid feed includes:

- solutions and suspensions

Specifications

Specifications may include:

- pH
- recipe
- volume
- consistency
- final bag, container or block size

RANGE STATEMENT	
Stockfeed mash production process	<p>A stockfeed mash production process typically includes:</p> <ul style="list-style-type: none"> • batching and blending of components, including any micronutrients and other additives • volumetric feeding • steam conditioning • quality checking • labelling • packing and despatch
Stockfeed liquid production process	<p>A stockfeed liquid production process typically includes:</p> <ul style="list-style-type: none"> • batching and blending of components, including any micronutrients and other additives • volumetric feeding • quality checking • labelling • packing and despatch
Stockfeed block production process typically	<p>A stockfeed block production process typically includes:</p> <ul style="list-style-type: none"> • batching and blending of components, including any micronutrients and other additives • volumetric feeding • steam conditioning • pouring of stockfeed into moulds • pressing • cooling • quality checking • labelling • packing and despatch

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFGR2002A Understand mill operations and technologies

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the overall knowledge of stockfeed milling operations a stockfeed employee requires to operate safely and effectively in a stockfeed mill.
------------------------	---

Application of the Unit

Application of the unit	This unit provides the overall knowledge of stockfeed milling materials, equipment, processes, and common risks that a stockfeed operator requires. It is designed to complement the skills provided by more specific technical and occupational health and safety (OHS) units.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Locate stockfeed mill departments, walkways, storage and assembly areas	1.1.Raw materials receival and storage areas are located 1.2.Control rooms and other main operator stations are located 1.3.Milling, batch and mixing, pelletising, liquid, mash and block stockfeed production areas are located 1.4.Additive storage is located 1.5.Support services, including maintenance, administration, laboratory and quality assurance, and information technology departments are located 1.6.Finished products storage and despatch areas are located 1.7.Walkways and emergency assembly areas are located
2. Describe flow of product through mill and purpose of each stage in the production process	2.1.Main raw materials and source are described 2.2.Receival processes, including weighing, volume and quality checks are described 2.3.Milling process are described 2.4.Batching and mixing processes, including recipe, micronutrients and additives are described 2.5.Post-mixing processes, including pelletising, mashing, pressing and setting are described 2.6.Labelling and packing operations are described
3. Describe range of stockfeeds, their purpose and target species	3.1.Differences in pellet, mash, liquid and block stockfeeds are identified 3.2.Identify target species and animals for stockfeed mill products are identified 3.3.Benefits of stockfeed are described to producers
4. Describe main risks to stockfeed milling operations	4.1.Explain importance of dust control and dust control procedures are explained 4.2.Additives requiring special safety and handling procedures are identified 4.3.Typical pests are described and pest control procedures explained 4.4.Main risks to quality, including contamination, incorrect recipe adherence, incorrect sequencing and product transference, incorrect labelling and packaging are described 4.5.Environmental procedures for mill operations are identified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- read diagrams and sketches
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each part of the stockfeed production process, such as volumetric metering, mixing, steam conditioning, pelletising pouring, pressing, cooling, adding and mixing in micronutrient and other additives, sequencing of production to minimise transference and cross-contamination, and traceability procedures
- range of raw materials and typical sourcing
- stockfeed product range and target species and animals
- basic operating principles of equipment and main equipment components
- basic operating principles of process control, including the relationship between control rooms and panels and the physical equipment
- the flow of the stockfeed production process
- quality characteristics and uses of finished stockfeed
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- methods used to monitor the stockfeed process, such as inspecting, measuring and testing as required by the process
- contamination risks and related controls
- OHS hazards and controls, including dust, contamination and materials requiring special handling procedures and emergency assembly areas

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	<p>Evidence is required in the ability to identify the overall process of stockfeed production, the different types of products and major departments in a stockfeed mill.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify and locate departments, major walkways and assembly areas in the stockfeed mill • describe the major steps in the stockfeed production process • describe stockfeed products and purposes, including pellets, liquid, mash and block stockfeeds, basic role of additives, typical target species and animals • identify major risk factors including dust, pests, contamination and incorrect adherence to recipes.
Context of and specific resources for assessment	The candidate is to be assessed on knowledge and skill relevant to his or her stockfeed workplace.
Method of assessment	Evidence may include direct observation, third party report, portfolio, work documentation, response to questions, and so on that address the performance criteria and critical aspects for assessment.
Guidance information for assessment	Performance against this standard must be assessed in an industry context. For valid and reliable assessment the activity should closely replicate the work environment, circumstances and equipment likely to be encountered in a workplace.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Stockfeed mill departments

Stockfeed mill departments may include:

- road and rail grain receipt, including weighbridges, general inwards goods receipt
- bulk and packaged raw materials storage
- milling, batch and mixing, pelletising, liquid, mash and block stockfeed production areas
- maintenance
- administration
- laboratory and quality assurance
- information technology
- bulk and packaged finished products storage
- road and rail despatch

Stockfeed products

Stockfeed products may include:

- pellets
- mash
- liquid
- block
- pre-mixes
- loose licks

Stockfeed production process

A stockfeed production process typically includes:

- batching and blending of components, including any micronutrients and other additives
- volumetric feeding
- steam conditioning
- pelletising
- pouring of stockfeed into moulds
- pressing
- cooling
- quality checking
- labelling

RANGE STATEMENT	
	<ul style="list-style-type: none"> • packing and despatch
Target species	Target species may include: <ul style="list-style-type: none"> • dairy cattle • beef cattle • poultry for egg production • poultry for meat • horses • pigs • sheep • fish (aquaculture)
Target animals	Target animals may include: <ul style="list-style-type: none"> • target species animals by age, gender, stage of growth or production • location and intended purposes and products
Typical pests	Typical pests include: <ul style="list-style-type: none"> • rodents • birds • insects

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

FDGFR2003A Operate a grain conditioning process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a process to condition grain by adding water to create a moisture level required for the separation and reduction processes.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a grain processing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of grain conditioning equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the grain conditioning equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the grain conditioning process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that conditioned product meets grist moisture specifications 2.5. Conditioned product is stored according to food safety requirements 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the grain conditioning process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify conditioning process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm conditioning and lying times
- calculate water addition to suit machine and wheat type
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for grain conditioning process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust conditioning process equipment to achieve required outcomes, including monitoring control points and conducting tests as required, such as moisture tests to confirm process remains within specification
- monitor supply and flow of materials to and from the conditioning process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take conditioning process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- purpose and basic principles of the conditioning process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the conditioning process and the effect of outputs on downstream flour milling processes
- quality characteristics to be achieved by the conditioning process
- quality requirements of materials and effect of variation on conditioning process performance
- types of grain and their qualities
- microbiological considerations in conditioning grain
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the conditioning process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the conditioning process and the related procedures and recording requirements
- contamination/food safety risks associated with the conditioning process and related control measures, including potential risks associated with out-of-specification lying times of conditioned grain
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the conditioning process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the conditioning process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for grain conditioning
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- conditioning process and related equipment and services
- materials required for the conditioning process
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Grain conditioning equipment	<p>Grain conditioning equipment may include:</p> <ul style="list-style-type: none"> conditioning bins mechanical/pneumatic stock transfer equipment automatic water addition equipment
Grain conditioning	<p>Grain conditioning may be:</p> <ul style="list-style-type: none"> a two-part process
Stock	<p>Stock for the conditioning process may be:</p> <ul style="list-style-type: none"> clean grain direct from the silo cleaned wheat from the cleaning process
Operation of equipment and processes	Operation of equipment and processes may require:

RANGE STATEMENT	
	<ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFGR2004A Operate a grain cleaning process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a cleaning process to screen impurities from the grist prior to the conditioning process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a grain processing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a grain cleaning equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the grain cleaning equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. The bin system is setup to meet production requirements 1.6. Equipment performance is checked and adjusted as required 1.7. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the grain cleaning process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that stock meets grist specifications 2.5. The process is monitored to confirm that impurity removal rate meets specifications 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the grain cleaning process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify grain cleaning process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that required screens are fitted and related equipment is clean and correctly configured for grain cleaning process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust grain cleaning process equipment to achieve required outcomes, including visual inspection and regular checking of collection points (filters and screens) and overtail bags
- carry out process adjustments to maintain efficient removal of impurities with minimal removal of product
- monitor supply and flow of materials to and from the grain cleaning process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take grain cleaning process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of:

- purpose and basic principles of the grain cleaning process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the grain cleaning process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the grain cleaning process
- quality requirements of materials and effect of variation on grain cleaning process performance
- how and why various kinds of wheat are blended to make grist
- purpose of the break rolls
- how and why the separation of endosperm takes place
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the grain cleaning process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the grain cleaning process and the related procedures and recording requirements
- contamination/food safety risks associated with the grain cleaning process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the grain cleaning process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the grain cleaning process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery and equipment used for grain cleaning • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • grain cleaning process and related equipment and services • materials required for the grain cleaning process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Grain cleaning equipment	Grain cleaning equipment may include: <ul style="list-style-type: none"> • intake equipment • day bins • screens • separators • aspirators • extractors/destoners • scourers • scales • dampers • measurers/mixers • impact grinders • materials handling equipment

RANGE STATEMENT	
Raw materials	Raw materials for grain cleaning may include: <ul style="list-style-type: none"> grist previously cleaned or dirty wheat which has been accepted by the mill
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFGR2005A Operate a purification process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a separation and grading process to remove particles of bran, with or without endosperm or germ attached, from the stock flow.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a stockfeed production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of stockfeed purification equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the purification equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the purification process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that particle size and quantity of stock meets specifications 2.5. Fine bran is removed from the semolina and the bran product with endosperm attached is returned to the purification process or scratch rolls for further processing 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the purification process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify purification process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, fitting required screen sizes, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for purification processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust purification process equipment to achieve required outcomes, including monitoring control points, conducting inspections and making adjustments to stock flow, feed gates and screens as required to confirm purification process remains within specification, and checking efficiency to remove offal with minimal product removal
- monitor supply and flow of materials to and from the purification process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take purification process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE***Knowledge of:***

- purpose and basic principles of the purification process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the purification process and the effect of outputs on downstream flour milling processes
- quality characteristics to be achieved by the purification process
- quality requirements of materials and effect of variation on purification process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the purification process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the purification process and the related procedures and recording requirements
- contamination/food safety risks associated with the purification process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the purification process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the purification process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery and equipment used for purification • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • purification process and related equipment and services • materials to be purified • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Equipment	<p>Equipment used in the purification process is a series of:</p> <ul style="list-style-type: none"> purifiers with related dust collection systems mechanical/pneumatic stock transfer equipment
Stock	<p>Stock for purification is supplied from:</p> <ul style="list-style-type: none"> the scratch and sizing process
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT

Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • vacuum • compressed and instrumentation air
-----------------	--

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGR2006A Operate a scalping and grading process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a production process for the separation of the break stock (chop) into appropriate flows to the next break, purifiers and sizing rolls.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a stockfeed production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of equipment and processes used for scalping and grading stock.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the scalping and grading equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the scalping and grading process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that particle size of stock meets specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the scalping and grading process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify scalping and grading process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for scalping and grading process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust scalping and grading process equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification, including regular inspection of collection points and sifter outlets to confirm process efficiency and visual inspection of product samples to confirm particle size
- monitor supply and flow of materials to and from the scalping and grading process
- adjust and clean screens
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- demonstrate batch/product changeovers
- follow isolation and lock out/tag out procedures as required to take scalping and grading process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of:

- purpose and basic principles of the scalping and grading process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation.
- services required and action to take if services are not available
- the flow of the scalping and grading process and the effect of outputs on downstream flour milling processes
- quality characteristics to be achieved by the scalping and grading process
- quality requirements of materials and effect of variation on scalping and grading process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the scalping and grading production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the scalping and grading process and the related procedures and recording requirements
- contamination/food safety risks associated with the scalping and grading process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the scalping and grading process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the scalping and grading process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery and equipment used for scalping and grading
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- scalping and grading process and related equipment and services
- stock required for the scalping and grading process
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Stock	Stock from break rolls of reduction rolls supplies the scalping and grading process
Scalping and grading equipment	<p>Scalping and grading equipment includes:</p> <ul style="list-style-type: none"> plainsifters and accessories mechanical/pneumatic stock transfer equipment <p>Supporting systems may include:</p> <ul style="list-style-type: none"> compressors aspirators filtrators
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFGR2007A Operate a scratch and sizing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a separation process to ensure as little bran as possible is in the remaining endosperm.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a stockfeed production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of scratch and sizing equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the scratch and sizing equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the scratch and sizing process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that particle size and quantity of stock meet specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the scratch and sizing process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify scratch and sizing process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for scratch and sizing process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust scratch and sizing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm that the process remains within specification, such as:
 - correct product type/quantity
 - roll releases
 - even spread of feed across rolls
 - mill balance
 - even grind/correct particle size
- monitor supply and flow of materials to and from the scratch and sizing process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take scratch and sizing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the scratch and sizing process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the scratch and sizing process and the effect of outputs on downstream flour milling processes
- quality characteristics to be achieved by the scratch and sizing process
- quality requirements of materials and effect of variation on scratch and sizing process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the scratch and sizing production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the scratch and sizing process and the related procedures and recording requirements
- contamination/food safety risks associated with the scratch and sizing process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the scratch and sizing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the scratch and sizing process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for scratching and sizing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • scratch and sizing process and related equipment and services • stock required for the scratch and sizing process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competence relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment used in the scratch and sizing process may include:</p> <ul style="list-style-type: none"> • reduction rolls • plainsifters • purifiers • flake disruptors • detachers • mechanical/pneumatic stock transfer equipment
Stock	Stock for the scratch and sizing is supplied from the scalping and grading process
Operation of equipment and processes	<p>Operation of equipment and processes may require</p> <ul style="list-style-type: none"> • the use of process control panels and systems

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFGR2008A Operate a break roll process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a process to separate bran from the endosperm
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a grain processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of break roll equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the break roll equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the break roll process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that bran separated from endosperm meets specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the break roll process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify break roll process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for break roll process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust reduction process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - correct product type/quantity
 - moisture content of incoming wheat
 - break roll releases
 - even spread of feed across rolls
 - mill balance
 - even grind/correct particle size
- monitor supply and flow of materials to and from the break roll process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take break roll process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the break roll process, including how and why the endosperm separation takes place
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the break roll process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the break roll process
- quality requirements of materials and effect of variation on break roll process performance, including the effect of moisture variation and related scope to adjust process throughput
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems, as well as an understanding of symptoms of chokes, blockages or breaches and action required to clear
- methods used to monitor the break roll process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the break roll process and the related procedures and recording requirements
- contamination/food safety risks associated with the break roll process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the break roll process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the break roll process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery and equipment used to separate bran from the endosperm • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • break roll process and related equipment and services • conditioned grain suitable for the break roll process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Break roll equipment	<p>Break roll equipment may include:</p> <ul style="list-style-type: none"> • break rolls (roller mills) • mechanical/pneumatic stock transfer equipment • bran finishers • dressing machines
Grain for the break roll process	Grain for the break roll process is supplied from the cleaning and conditioning processes
By-products	<p>By-products may include:</p> <ul style="list-style-type: none"> • wheat germ • pollard • bran • semolina

RANGE STATEMENT	
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGR2009A Operate a pelleting process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down process equipment to compress mash into pellets and to finish pellets.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a stockfeed production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of pelleting equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the pelleting equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the pelleting and pellet finishing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary feed, liquid ingredients and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate dies and/or roll settings where required, setting processing parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required at each stage of the pelleting and pellet finishing process to confirm process remains within specification
- monitor supply of feed to and from the pellet forming process
- monitor supply of liquid ingredients to post-mixing process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each part of the process, such as volumetric

REQUIRED SKILLS AND KNOWLEDGE

metering, steam conditioning, pellet formation, cooling, crumbling and sieving and post-pelleting liquid addition

- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment
- the flow of the pelleting process and the effect of outputs on downstream processes
- quality characteristics and uses of finished pellets
- effect of variation in inputs and/or services on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- the effect on final product of variation in variables, such as:
 - pellet diameter to length ratios
 - oil and fat content
 - retention time and temperatures for steam conditioning, including consequences of temperatures that are too high and too low on chemical composition
 - retention time and temperature for liquid addition
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the pelleting process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- contamination risks related to the pelleting and pellet finishing process and related controls
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace pelleting requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for pelleting
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- pelleting, pellet finishing and related equipment and services
- feed/mass to be pelleted
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Pelleting process	<p>The pelleting process typically includes:</p> <ul style="list-style-type: none"> • volumetric feeding • steam conditioning of mash • pellet formation and cooling <p>Some processes also include:</p> <ul style="list-style-type: none"> • crumbling and sieving <p>Processes may include:</p> <ul style="list-style-type: none"> • a post-pellet mixing stage for liquid addition
Pelleting and finishing equipment	<p>Pelleting and finishing equipment may include:</p> <ul style="list-style-type: none"> • feed screws and related feed transfer equipment • steam conditioners

RANGE STATEMENT	
	<ul style="list-style-type: none"> • expanders • pellet presses • coolers • crumble rolls • screens • sieves • shakers • post-pellet mixers
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGR2010A Handle grain in a storage area

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to handle grain in a storage area, including taking samples, segregating and moving grain in a manner that minimises dust and exposure to pests.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a grain processing environment for human or stock consumption. It typically targets the production worker responsible for applying basic operating principles to the storage of grain in permanent or temporary storage facilities.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Sample grain for testing	1.1. Representative samples of grain are taken for testing according to regulatory requirements 1.2. Samples are prepared for despatch, including labelling and packaging according to enterprise requirements
2. Move grain into and out of storage	2.1. Grain for handling and storage is correctly identified 2.2. Appropriate silo types and handling equipment are selected for various grains in relation to their storage characteristics and flow properties 2.3. Grain is segregated according to type, variety and quality characteristics according to enterprise requirements and appropriate records kept 2.4. Measures are taken to minimise pest infestation 2.5. Grain is moved into and out of storage according to occupational health and safety (OHS) requirements 2.6. Grain is regularly checked during movement for contamination 2.7. Storage and handling equipment are thoroughly cleaned after emptying 2.8. Temporary storages are dismantled according to enterprise requirements and storage characteristics 2.9. Suitable measures are implemented to minimise the effect of desiccant dusts on the flow properties of grain

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify grain storage requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- start, operate, monitor and adjust equipment used to move and store grain to achieve required outcomes
- monitor supply and flow of materials to and from the grain cleaning process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take grain cleaning process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- conduct pre-operational checks, start up, and safely and effectively operate and shut down equipment, including emergency shutdown procedures
- coordinate with others on site
- position initial load for even grain distribution
- safe and correct use of mobile and other equipment
- dismantling of temporary storage of the type used by enterprise
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- grain hygiene and sealing requirements
- grain varieties and types
- segregation requirements to maintain integrity and quality of grain
- flow of grain in storage area from receipt to despatch

REQUIRED SKILLS AND KNOWLEDGE

- typical storage equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- contamination/food safety risks associated with the grain storage process and related control measures
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the grain storage process and workplace requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- environmental issues and controls relevant to the grain storage process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations where the unit is applied for grains intended for human consumption.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- take required samples
- conduct pre-start checks on machinery and equipment used for grain storage and transfers
- start, operate, monitor and adjust process equipment
- recognise different grain types and varieties
- check grain for pest and other contamination
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices where grain is intended for human consumption.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- storage and transfer instructions
- grain storage and transfer equipment and services
- materials required for the grain storage process
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and

EVIDENCE GUIDE	
	procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	All work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Grains	Grains are those stored by the enterprise and may include: <ul style="list-style-type: none"> • cereals • legumes • pulse crops • oilseeds • pasture seeds
Grain movements	Grain movements may be for the purposes of: <ul style="list-style-type: none"> • receipt • despatch • aeration • treatment and/or blending of grain grades
Storage facility	Storage facility covers: <ul style="list-style-type: none"> • all types of temporary and permanent storage
Sampling and analysis equipment	Sampling and analysis equipment includes: <ul style="list-style-type: none"> • all testing apparatus • sampling, measuring and sieving equipment • operational charts • calibration and identification samples • enterprise/client instructions
Samples for testing	Samples may be for different tests, including: <ul style="list-style-type: none"> • moisture • insects (live and dead) • weed and other commodity seeds • other foreign matter

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cracked grain • weather affected grain • grain size and weight • disease identification • germination
Handling equipment	<p>Handling equipment used includes:</p> <ul style="list-style-type: none"> • silo conveyors • elevators • chutes • augers
Other equipment	<p>Other equipment used may include:</p> <ul style="list-style-type: none"> • computing equipment used by enterprise • two way radio/telephone • tractors • front end loaders • wall charts and other visual recording methods • warning devices • ventilation/aeration equipment
Equipment checks	<p>Equipment checks may include:</p> <ul style="list-style-type: none"> • mechanical units integral to grain handling equipment, such as gear boxes, bearings and oil levels
Other personnel	<p>Other personnel involved may include:</p> <ul style="list-style-type: none"> • other operators at storage site • truck drivers • silo operators • weighbridge operators • associated office personnel
Documentation	<p>Documentation may cover:</p> <ul style="list-style-type: none"> • quantities and grades stored • grain movements and cartage documentation • weigh tally sheets • equipment and operations log sheets • stock checks
Potential emergency situations	<p>Potential emergency situations may include:</p> <ul style="list-style-type: none"> • inclement weather during operations

RANGE STATEMENT

	<ul style="list-style-type: none"> • machinery breakdowns • power outages • storm damage to equipment and site
--	---

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFGR2011A Receive grain for malting

Modification History

New Unit.

Unit Descriptor

This unit covers the specific skills and knowledge required for on-site receipt of grain intended for malting from road, rail or sea transport including checking of documentation, weighing, conduct of pest, contamination and other initial checks, and placement of grain into storage.

Application of the Unit

This unit applies to operators in commercial malting plants who are responsible for receiving grain from farmers or agents for malting. The grain received in most cases will be barley but may also be wheat. The unit covers the grain receipt process where operators determine or work with others to determine if delivered grain should be accepted including checking of documentation, sampling and testing, screening and storage.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFGR2010A Handle grain in a storage area

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Receive grain from transport	<ul style="list-style-type: none">1.1 Delivery documentation is checked1.2 Required tests for delivered grain is determined from standard operating procedures, supervisor instruction or other source1.3 Samples of grain are tested for the required parameters to determine if the delivery is within specifications1.4 Procedures for rejected grain are followed according to enterprise procedures
2 Weigh and screen accepted grain	<ul style="list-style-type: none">2.1 Grain is off loaded from transport and routed to screens2.2 Intake grain is passed through screens2.3 Size of grain corn is monitored2.4 Dust control procedures are followed2.5 Grain is passed through metal removal equipment2.6 Grain is weighed
3 Store intake grain	<ul style="list-style-type: none">3.1 Moisture and protein content of grain is determined3.2 Screened grain is routed to batch bins or other containers

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- undertake standard tests on received grain for insects, taint, other contaminants and foreign objects as well as any required specific scientific tests e.g. near infra-red(NIR)
- interpret and apply enterprise procedures and specifications for receiving grain
- set up, use and monitor grain, receiving, weighing, metal detection and drying equipment including using process control interfaces where required
- apply dust control procedures to grain receiving and storage work areas
- monitor control points
- identify OHS hazards and controls
- comply with procedures and responsibilities for reporting problems
- comply with environmental procedures and controls
- follow waste handling requirements and procedures
- record required quality and production data
- undertake routine maintenance procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- grain delivery arrangements and transport modes relevant to the enterprise
- location and types of storage available for received grain relevant to the enterprise
- enterprise procedures for rejected grain
- identification, avoidance and safe handling of accidentally residues of insect treatment from ex-site storages (e.g. phosphin bags)
- other contamination avoidance and removal procedures including
 - jewellery and loose objects in work area
 - security and access procedures to work areas
 - pest control procedures
 - metal and other foreign objects detection and removal
- dust control procedures
- cleaning requirements associated with changeovers and types of shutdowns
- procedures for reporting problems

- relevant sampling and testing procedures
- cleaning and sanitation procedures relevant to the enterprise

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify grain receival procedures including: <ul style="list-style-type: none"> • specifications • required sampling and tests • reporting arrangements • select, fit and use personal protective clothing and equipment • confirm equipment status and condition • set up, start, operate and monitor grain transfer and weighing equipment • undertake required sampling and testing of grain according to enterprise procedures • apply enterprise procedures for rejection of out of specification grain • monitor critical control points in work area • apply dust control procedures in work area • maintain workplace records
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety and environmental requirements • material data safety sheets where appropriate • information on specifications, control points and grain handling procedures
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place

	<ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment• FDFOP2011A Conduct routine maintenance• FDFOP2013A Apply sampling procedures• FDFOP2030A Operate a process control interface• MSL973001A Perform basic tests.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Malt	The term malt includes malt intended for use in beer production, distilling malts, specialty malts such as crystal and roasted malts, and malt for food production.
Grain	Grain can be barley or wheat
Transport	<p>Grain may be received from any or all of the following modes of transport:</p> <ul style="list-style-type: none"> • road • rail • sea • conveyor from off site storage e.g. a grain elevator
Sampling and testing procedures	<p>Sampling and testing procedures may vary according to amount and mode of grain delivery and source of delivered grain. Possible tests include tests for:</p> <ul style="list-style-type: none"> • grain size and weight • protein • moisture • nitrogen • pests • taint • weather damage e.g., sprouting, black-tip • metal and other foreign objects
Procedures for rejected grain	<p>Rejected grain procedures may include:</p> <ul style="list-style-type: none"> • isolation of rejected grain • directing transport operator to remove grain off site • fumigation or other treatment of grain before isolation or off site transport • completion of appropriate documentation
Services	Services include power, gas, water, steam and compressed air.
Control points	Refers to the key points in a work process which must be monitored and controlled. This includes food safety, (critical), quality, and regulatory control points as well as

	inspection points. Monitoring may involve the use of production data such as performance control charts Process operation and monitoring functions may be manual or involve the use of a process control system
Equipment is monitored	Equipment monitoring includes ensuring that hygiene and sanitation standards are met, all safety guards are in place, and that equipment is operational and performing to specification.
Workplace information may include:	Standard Operating Procedures (SOPs); specifications and production schedules Information systems may be print or screen based.

Unit Sector(s)

Grain processing

FDFGR2012A Prepare malted grain

Modification History

New Unit.

Unit Descriptor

This unit covers the skills and knowledge required for operating commercial equipment associated with preparing malted barley or wheat. It covers operating and monitoring steeping, germinating, and kilning equipment.

Application of the Unit

This unit applies to operators in commercial malting plants who are responsible for converting stored grain into malted barley or wheat. These operators are often known as maltsters. The unit covers the skills used in the malting process from after the grain is received and stored up to the malted barley or wheat being ready for blending, transport or storage. The skills covered by this unit are applied in accordance with enterprise procedures and to specifications determined by senior scientific or production management.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFGR2010A Handle grain in a storage area

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Steep grain	1.1 Grain is transferred from storage into steeping equipment 1.2 Hoses or other wetting equipment are placed correctly to ensure uniform hydration and to avoid damage to grain 1.3 Grain is immersed, drained and rested for the specified number of cycles 1.4 Moisture content of grain is monitored during air resting to determine when it is ready for transfer to germination vessels 1.5 Waste water is discharged to treatment or holding or other facilities according to enterprise and regulatory environmental guidelines
2 Germinate grain	2.1 Grain is fed into germination vessel or floor 2.2 Turning and air blowing equipment is set up, operated and monitored 2.3 Green grain is monitored for humidity, temperature, moisture, chitting/acrospires, and general condition 2.4 Rate of turning, humidity and temperature is adjusted as required to maintain green grain to specifications 2.5 Modified green grain is transferred to kiln according to specifications for malt type and results of laboratory testing
3 Operate kiln to produce malt	3.1 First drying of modified grain is conducted 3.2 Stopping of germination is confirmed 3.3 Modified grain is cured through correct combination of air flow and heat for malt product specification, in consultation with the production manager 3.4 Colour, moisture content and other required specifications are confirmed 3.5 Malt is cleaned 3.6 Separated culm is transferred to storage 3.7 Malt is transferred to storage

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify batch and recipe specifications and seeks assistance and relevant approvals when required
- achieve specified moisture content in grain through correct combinations of water/air/water steeping cycles
- germinate barley to different specifications through correct use of air, humidity and turning equipment
- avoid clumping of barley during germination through correct turning
- conduct acrospires evaluation and moisture testing
- correctly adjust kiln heat settings for drying or curing and for different types and grades of barley and malt
- follow specified shutdown processes and equipment and implement cleaning requirements associated with changeovers
- monitor control points
- undertake corrective action required in the event of variation to specifications and operating parameters
- identify OHS hazards and controls
- comply with enterprise procedures and responsibilities for reporting problems
- comply with enterprise environmental procedures and controls
- follow waste handling requirements and procedures
- record required production data
- undertake routine maintenance procedures
- follow dust control procedures
- clean and sanitise equipment according to enterprise procedures
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- changes to grain from the steeping process
- changes in grain during germination
- role of humidity and temperature in initiating and controlling germination of grain
- common variations in grain quality and type
- common customer malt "recipes" used in the enterprise and implications for malt production
- standard transfer times between stages e.g. receiving to steeping, steeping to germination,

germination to kilning

- procedures for dealing with contingencies, breakdowns and other non standard events
- contamination avoidance procedures including
- jewellery and loose objects in work area
- security and access procedures to work areas
- pest control procedures
- appearance of grains before and after cleaning (deculming)
- cleaning requirements associated with changeovers and types of shutdowns
- purpose of moisture and acrospires testing within the malting process
- equipment cleaning and sanitation procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit requires that the learner be assessed against at least two different batches of barley or wheat with different specifications for steeping, germination and kilning.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information and consult with relevant personnel to identify batch requirements for steeping, germination, kilning and malt cleaning processes • select, fit and use personal protective clothing and equipment • confirm equipment status and condition • set up, start and monitor grain transfer equipment • control absorption of water by grain during steeping to achieve specified water content • supply fresh air, heating, cooling and ventilation to specification during germination • safely start and operate kilns to different heat requirements • undertake sampling and testing during steeping, germination and cleaning to determine if grain and malt is within specifications • monitor critical control points in work area • apply dust control procedures in work area • maintain workplace records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety and environmental requirements • material data safety sheets where appropriate • steeping, germination, kilning and deculming equipment and control points. The steeping, germination, kilning equipment may be separate or

	<p>combined</p> <ul style="list-style-type: none"> • Steeping, germination and kilning specifications and procedures for at least two different malts • malted grain cleaning equipment.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
<p>Guidance information for assessment</p>	<p>To ensure consistency of performance, competency should be demonstrated on at least two occasions to different steeping, germinating and kilning specifications.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Malt	The term malt includes malt intended for use in beer production, distilling malts, specialty malts such as crystal and roasted malts, and malt for food production.
Services	Services include power, gas, water, steam and compressed air.
Equipment	<p>Includes equipment used for:</p> <ul style="list-style-type: none"> • storage e.g. bins, hoppers or silos • on site grain transport such as conveyors, blowers, chutes • weighing • metal detection • steeping vessels or towers • pumps, hoses and other wetting equipment • aeration and CO² extraction • germination vessels including circular or rectangular vessels or boxes • mechanical turning • kilning including tower and flat plant kilns • combined steeping, germination and kiln vessels • cleaning of malt (deculming).
Control points	<p>Refers to the key points in the malting process which must be monitored and controlled. This includes food safety, (critical), quality, and regulatory control points as well as inspection points. Monitoring may involve the use of production data such as performance control charts.</p> <p>Process operation and monitoring functions may be manual or involve the use of a process control system.</p>
Equipment is monitored	Equipment monitoring includes ensuring that hygiene and sanitation standards are met, all safety guards are in place, and that equipment is operational and performing to specification. It may also include the calculation of raw materials.
Workplace information may	Standard Operating Procedures (SOPs); specifications

include:	and production schedules. Information systems may be print or screen based.
-----------------	--

Unit Sector(s)

Grain processing

FDFGR2013A Blend and dispatch malt

Modification History

New Unit.

Unit Descriptor

This unit covers the skills and knowledge required for operating commercial equipment associated with blending malted barley or wheat to specifications and dispatching wheat to customers.

Application of the Unit

This unit applies to operators in commercial malting plants who are responsible for blending malted barley or wheat and then dispatching the malt to customers. These operators are often known as maltsters. The skills covered by this unit are applied in accordance with enterprise procedures and to specifications determined by senior scientific or production management.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Blend malt to specification	<ul style="list-style-type: none">1.1 Blend specification is obtained from management or other source1.2 Availability of source malts and storage locations are confirmed1.3 Blending equipment controls are set to achieve desired ratio and volume1.4 Blended malt is transferred to storage
2 Dispatch malt	<ul style="list-style-type: none">2.1 Customer order or other dispatch authority is obtained2.2 Availability of order volume and blend of malt is confirmed2.3 Availability of conveyor or dispatch transport is confirmed and positioned if required2.4 Pre-delivery sampling and tests are conducted according to specifications2.5 Malt for dispatch is screened and dispatched to transport2.6 Record of dispatch is made according to procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify blend specifications and seeks assistance and relevant approvals when required
- adjust blending equipment settings to achieve a variety of blend ratios and volumes
- operation of conveyors, loaders and other equipment in a manner suitable to mode of dispatch
- monitor control points
- identify OHS hazards and controls
- undertake required corrective actions specified in enterprise procedures in the event of variation to blend specifications and operating parameters
- comply with procedures and responsibilities for reporting problems
- comply with environmental procedures and controls
- follow waste handling requirements and procedures
- record required blend and dispatch data
- undertake routine maintenance procedures
- collect samples and conduct tests according to enterprise procedures
- maintain work area to meet housekeeping standards
- follow dust control procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- common terms for malt types and blends
- malts used in the enterprise and their relationship to blends required by customers
- loading techniques for modes of dispatch used in the enterprise
- cleaning requirements associated with changeovers and types of shutdowns
- procedures for dealing with contingencies, breakdowns and other non standard events
- contamination avoidance procedures including
 - jewellery and loose objects in work area
 - security and access procedures to work areas
 - pest control procedures
- sampling and testing procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify blending requirements • access workplace information to identify malt dispatch requirements including malt type and amount, mode of transport, and screening and testing requirements • select, fit and use personal protective clothing and equipment • confirm equipment status and condition • set up, start and monitor grain transfer equipment • undertake required sampling and testing during blending and dispatch • monitor critical control points in work area • maintain workplace records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety and environmental requirements • malt of different types for blending • blending equipment • dispatch and malt transport equipment.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures

	<ul style="list-style-type: none">• FDFOP2030A Operate a process control interface• MSL973001A Perform basic tests.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Malt	The term malt includes malt intended for use in beer production, distilling malts, specialty malts such as crystal and roasted malts, and malt for food production.
Blend specification	Blend specification includes: <ul style="list-style-type: none"> • mix ratios • total volume of required malt.
Mode of dispatch includes:	Malt may be dispatched one or more modes of transport including: <ul style="list-style-type: none"> • road • rail • ship • conveyor to external customer's premises or silo.
Services	Services include power, gas, water, steam and compressed air.
Equipment	Includes equipment used for: <ul style="list-style-type: none"> • storage e.g. bins, hoppers or silos • on site grain transport and loading such as conveyors, blowers, chutes • weighing • metal detection • blending of malt.
Control points	Refers to the key points in a work process which must be monitored and controlled. This includes food safety, (critical), quality, and regulatory control points as well as inspection points. Monitoring may involve the use of production data such as performance control charts. Process operation and monitoring functions may be manual or involve the use of a process control system.
Equipment is monitored	Equipment monitoring includes ensuring that hygiene and sanitation standards are met, all safety guards are in place, and that equipment is operational. It may also include the calculation of materials to be dispatched and

	monitoring to ensure correct weight is delivered.
Workplace information may include:	Standard Operating Procedures (SOPs); specifications and production schedules Information systems may be print or screen based.

Unit Sector(s)

Grain processing.

FDFGR3001A Work with micronutrients or additions in stockfeed manufacturing processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the selection and use of micronutrients and additives by operators undertaking stockfeed manufacturing.
------------------------	--

Application of the Unit

Application of the unit	This unit relates to the application of appropriate identification, handling, use and recording of micronutrients and additives used in stockfeed production.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify finish feed requirement	1.1. Product to be manufactured from production schedule, customer order or standard operating procedure (SOP) is identified 1.2. Micronutrient or additive requirements is identified from screen, recipe, standard operating procedure or supervisor
2. Obtain correct micronutrient or other additive	2.1. Storage location for micronutrient or additive is identified 2.2. Micronutrient or additive is obtained according to SOP 2.3. Micronutrient or additive label is read to determine any special mixing, handling or occupational health and safety (OHS) requirements
3. Add micronutrient or additive to product	3.1. Micronutrient or additive is matched to product 3.2. Appropriate volume, measurement or proportion of micronutrient or additive is determined 3.3. Pre-mixing or other micronutrient or additive preparation procedures are undertaken 3.4. Micronutrient or additive to product is added to stockfeed at appropriate location and stage of production process 3.5. Appropriate contamination, quality and sequencing procedures are followed 3.6. Stockfeed samples are taken according to procedures 3.7. Work is conducted in accordance with workplace environmental guidelines
4. Record use of micronutrient or additive	4.1. Type and amount of micronutrient or additive used is recorded according to enterprise and statutory requirements if applicable 4.2. Correct product labels are generated and added to product

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify scheduled additives (S4)
- store and handle micronutrients and additives
- follow mixing and addition procedures for micronutrients and additives
- read labels to identify:
 - target and non-target species
 - dose /addition level
 - withholding period
 - expiry dates
 - storage and handling requirements
 - manufacturer's name
 - product and active ingredient name
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- contamination avoidance, quality and sequencing procedures
- risk factors for cross transference
- withholding periods
- OHS procedures for micronutrients and additives

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Evidence is required in manufacturing stockfeeds containing micronutrients and additives to required specification and quality including correct identification of risk factors and risk mitigation procedures.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify and interpret micronutrients and additives requirements from stockfeed recipes and production schedules • relate micronutrients and additives to correct stockfeed • follow correct contamination, quality and sequencing procedures • liaise with nutritionist and other professional and technical staff on micronutrients and additives requirements of stockfeed.
<p>Context of and specific resources for assessment</p>	<p>The candidate is to be assessed on micronutrients and additives relevant to the stockfeed products and processes in the workplace.</p>
<p>Method of assessment</p>	<p>Evidence may include direct observation, third party report, portfolio, work documentation, response to questions, and so on that address the performance criteria and critical aspects for assessment.</p>
<p>Guidance information for assessment</p>	<p>Performance against this standard must be assessed in an industry context. For valid and reliable assessment the activity should closely replicate the work environment, circumstances and equipment likely to be encountered in a workplace.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Micronutrients and additives	<p>Micronutrients and additives may range from common proprietary products to specific micronutrients and additives prescribed by veterinarians or covered by legislative requirements</p>
Hazards and risks	<p>The range of hazards and risks associated with micronutrients and additives use includes:</p> <ul style="list-style-type: none"> • Cross-contamination of micronutrients and additives for different feeds and recipes • wrong formula and other errors especially failure to read formula correctly • incorrect volume/measurement/proportion
Stockfeed	<p>Stockfeed includes feed commercially produced and branded by enterprises as well as customer provided formulations.</p> <p>The range of stockfeed can include:</p> <ul style="list-style-type: none"> • pellets • liquids • mashes • blocks
Target species	<p>Target species may include:</p> <ul style="list-style-type: none"> • land and marine animals raised commercially for meat, skin products and milk

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFGR3002A Demonstrate knowledge of animal nutrition principles

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the animal nutrition knowledge required by stockfeed milling operators who are required to liaise with nutritionists, other technical and professional staff and customers.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to stockfeed operators who are required to have knowledge of animal nutrition principles and the effect of stockfeed on animal performance. This knowledge would be applied in liaison with professional and technical staff on customer requirements and in liaison directly with customers.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify nutrition purpose of stockfeed product	<p>1.1. Target species, animal type and phase of animal growth supported by stockfeed product are identified</p> <p>1.2. Production purpose of animal raising and range of desired products are identified</p> <p>1.3. Particle size, pellet quality and other factors affecting palatability for target animals are identified</p> <p>1.4. Impact of stockfeed on animal performance is identified</p>
2. Identify key quality factors affecting stockfeed performance	<p>2.1. Feed safety requirements for target species and phase of animal production are identified</p> <p>2.2. Type and proportion of raw materials in stockfeed and their effect on animal performance are identified</p> <p>2.3. The purpose of additives on animal performance and stockfeed quality are identified</p> <p>2.4. Effects of processing on stockfeed nutrition quality and animal performance are identified</p> <p>2.5. Substitution guidelines, including the effect of substitution on stockfeed performance, are understood</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access and interpret workplace information, including standard operating procedures (SOPs), labels, recipes, customer supplied information and material data safety sheets (MSDS)
- use and application of workplace terminology
- sequence information against production processes
- assess quality standards
- identify resources in the enterprise for further information, including nutritionists, other technical and professional specialist and reference materials

Required knowledge

Knowledge of:

- typical nutrition requirements of animals supported by stockfeed, including horses, beef cattle, dairy cattle, pigs, sheep, poultry (both meat and egg production) and marine animals (aquaculture). Knowledge would be restricted to standard daily requirements of main food groups (proteins, carbohydrates etc), typical daily volume of feed required and type of feed (e.g. solid, liquid, plant or animal based)
- how nutritional needs of target animal may vary according to species, gender, health, pregnancy, lactation, age, season, geography, production purpose and form of production and feeding, e.g. feedlot, free range, use of stock feed for supplementary or full feeding
- factors affecting animal acceptance of stockfeed, including palatability and presentation
- range of raw materials typically used in stockfeed, including grains, molasses/liquids, proteins (vegetables and animal), additives (vitamins, minerals and medications) and fibre
- impact of operator controlled factors on stockfeed quality, including temperatures, moisture, sizing, sieving and liquid additions
- impacts of stockfeed on animal performance, including positive effects on animal performance and effects of incorrect feed on animal safety, animal performance and export contamination

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Evidence is required of animal nutrition and performance requirements that are affected by stockfeed related factors, such as ingredients, recipe, processing and presentation.</p> <p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify and interpret customer requirements from stockfeed • relate stockfeed type to animal nutrition and production requirements • liaise with nutritionist and other professional and technical staff on animal nutrition requirements of stockfeed.
<p>Context of and specific resources for assessment</p>	<p>The candidate is to be assessed on animal nutrition and production knowledge relevant to the stockfeed products and processes in the workplace.</p>
<p>Method of assessment</p>	<p>Evidence may include third party report, portfolio, work documentation, response to questions, and so on, that address the performance criteria and critical aspects for assessment.</p>
<p>Guidance information for assessment</p>	<p>Performance against this standard must be assessed in an industry context. For valid and reliable assessment the activity should closely replicate the work environment, circumstances and equipment likely to be encountered in a workplace.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Stockfeed production	<p>Stockfeeds commercially produced by enterprises as well as customer provided formulations.</p> <p>The range of stockfeed can include:</p> <ul style="list-style-type: none"> • pellets • liquids • mashes • blocks
Target species	<p>Target species may include:</p> <ul style="list-style-type: none"> • land and marine animals raised commercially for meat, skin products and milk

Unit Sector(s)

Unit sector	Grain processing
--------------------	------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFGR3003A Lead flour milling shift operations

Modification History

Not applicable.

Unit Descriptor

This Unit covers the skills and knowledge required by a miller in the flour milling industry to lead milling operations during a shift including acting as a technical resource to other mill employees.

Application of the Unit

This Unit applies to a miller who is responsible for the flour mill operations during a shift. The Unit provides skills to integrate knowledge of milling materials, equipment, processes, and common milling risks to achieve milling product and performance specifications. The job titles applicable to the Unit may be shift miller or just miller. The Unit applies to the milling of all grains for flour and other milling processed food and non-food products. The Unit covers implementing the mill settings to meet production requirements, supervising of conditioning and grist formulation, and ensuring that quality, Hazard Analysis Critical Control Points (HACCP), dust control, occupational health and safety (OHS) and other risk management procedures are followed by employees during the shift.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish shift operating environment	1.1 Identify products and quantities to be produced by mill during shift. 1.2 Identify from authorised suppliers the supplier of grain used during shift and the varieties supplied. 1.3 Apply required costing and control procedures to achieve set key performance indicators (KPIs). 1.4 Establish range of available equipment and any unique design or operating factors. 1.5 Identify staffing and work organisation for shift. 1.6 Identify any budget and/or budget operating procedures relevant for shift operations.
2. Monitor quality during shift	2.1 Identify specifications for flour to be produced during shift. 2.2 Identify performance indicators and production targets for mill and mill departments during shift. 2.3 Supervise testing regime for mill during shift. 2.4 Monitor performance against targets and indicators. 2.5 Report non-conformances and take appropriate corrective actions.
3. Set and supervise grain supply and intake procedures	3.1 Supervise grain receipt operations including compliance with instructions for rejected deliveries. 3.2 Set screening criteria and procedures for re-use of screenings. 3.3 Set blending criteria for holding bins/silos.
4. Set and supervise grain conditioning process and specifications	4.1 Specify and communicate grain cleaning requirements to operators. 4.2 Set water volume for each grain batch. 4.3 Set conditioning time per batch. 4.4 Determine any blending and treatment criteria. 4.5 Monitor tests and specifications for conditioned grain. 4.6 Supervise transfer to storage or mill.
5. Supervise production	5.1 Identify shift production targets. 5.2 Obtain or determine recipes. 5.3 Formulate and supervise preparation of grist. 5.4 Supervise milling of individual grains. 5.5 Set blending requirements including any use of additions and adjuncts. 5.6 Allocate production specifications for shift to departments. 5.7 Ensure production records are kept.

- 5.8 Monitor production against targets.
- 6. Integrate maintenance schedule with shift operations
 - 6.1 Identify shift preventative maintenance requirements from maintenance department and/or equipment suppliers.
 - 6.2 Supervise equipment monitoring and maintenance responsibilities for operators, maintenance department and other staff.
 - 6.3 Identify and approve timing for any regular maintenance activities that will disrupt production.
 - 6.4 Supervise breakdown notification and repair procedures.
- 7. Implement risk management procedures
 - 7.1 Supervise implementation of OHS and dust control procedures.
 - 7.2 Monitor HACCP procedures during shift.
 - 7.3 Monitor compliance with environmental and sustainability regulations and targets.
 - 7.4 Monitor operations against any required regulatory compliance including required reporting procedures.
- 8. Provide guidance to other mill employees
 - 8.1 Monitor and maintain standard operating procedures.
 - 8.2 Supervise any required training for employees during shift operations.
 - 8.3 Ensure availability of reference materials.
 - 8.4 Implement communication and feedback mechanisms to and from employees.

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills include:

Ability to:

- identify typical flours including semolina, and other mill products
- identify grain types and main grain varieties
- liaise with other departments on flour product requirements
- calculate:
 - water required to achieve target moisture content
 - extraction rate on:
 - dirty wheat basis
 - clean wheat basis
 - total production basis
 - protein loss for each grist
 - milling gains/losses
- integrate OHS, HACCP and dust control procedures with mill operations
- communicate production requirements and technical information to other employees.

Required knowledge includes:

Knowledge of:

- differences in types of milling processes including differences in milling of different grains, varieties and milling for flour or for semolina
- process and purpose of flour milling including:
 - opening of grain to enable removal of endosperm
 - separation of bran
 - grinding of endosperm to flour
 - sifting of ground stock to:
 - remove oversize endosperm particles
 - remove flour
 - remove any bran and endosperm that has not been ground
 - kibbling
 - middlings and semolina process
- methods used to establish the most economic grist for a particular flour, i.e. the balancing of flour specification, grain availability, cost of grain available etc.
- financial impacts of mill performance/settings
- principles of preventative maintenance including failure mode effects analysis (FMEA)
- food safety, food labelling and other regulations affecting flour mills
- grain varieties and specifications

- flour types and specifications
- food labelling regulations relevant to flour products
- HACCP principles and procedures
- dust control procedures
- OHS standards and requirements
- environmental regulations.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this Unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this Unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • interpret production requirements and grain tests for desirable mill settings • assist employees with conduct and interpretation of grain and flour tests • match grain receipt, screening and storage processes to production requirements during shift • prepare or supervise production of grists according to recipes • set and manage milling and blending operations • supervise dust control, HACCP and OHS procedures during shift operations.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • equipment manuals including operating parameters • specifications, control points and processing parameters • break and reduction roll process and related equipment and services • conditioned grain suitable for the break and reduction roll process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

Method of assessment	<p>This Unit should be assessed together with core Units and other Units of Competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP3001A Control contaminants and allergens in the workplace• FDFGR3004A Control mill processes and performance• FDFOP3003A Operate inter related processes in a production system.
Guidance information for assessment	<p>To ensure consistency of performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Mill	The term mill is used to refer to the whole mill site including the actual milling equipment, equipment used for associated processes, and transport, warehouse, maintenance, testing and administration facilities.
Grain	Grain refers to all edible grains that can be milled for flour, semolina and other grain based food and non-food products. Examples of grains covered by this Unit include wheat, rye, spelt, triticale, oats, corn and barley.
Grist	Grist is a blend that may be made from a single wheat (or other grain) or be produced from a combination of wheats (or other grains).
Mill testing regime	<p>The mill testing regime refers to the determination of:</p> <ul style="list-style-type: none"> • range of tests required per product • test locations e.g. operator tests, on site laboratory tests and externally conducted tests • test frequency/sampling rate • criteria for acceptance/rejection/re-test • reporting requirements • training required by employees to conduct tests.
Mill performance	<p>Mill performance is the production of the maximum amount of flour to required specifications in the most efficient and profitable way. Indicators of mill performance may include:</p> <ul style="list-style-type: none"> • mill gain or loss • extraction rate • flour production per shift and other selected periods.
HACCP Plan	The detailed establishment and implementation of a mill HACCP plan is not included in this Unit. However establishing and supervising compliance with the HACCP plan is included.

Production records will usually include:	<ul style="list-style-type: none">• capacity per hour or per 24 hours to first break• output per hour of final flour• extraction rate• moisture content of flour/grain• water absorption of flour• protein content of flour• colour grade.
--	--

Unit Sector(s)

Grain processing

FDFGR3004A Control mill processes and performance

Modification History

Not applicable.

Unit Descriptor

This Unit covers the skills required by a shift miller to control flour and byproduct production in a flour mill. The Unit also includes equipment setting as well as setting equipment and process requirements that must be implemented by other employees. The Unit includes the setting of all break, scratch, sizing, reduction and other milling related processes as well as the supervision of wheat conditioning.

Application of the Unit

This Unit applies to a shift miller who is required to set equipment in a flour mill to control the processes and performance across the mill to achieve maximum extraction and recipe compliance. The Unit applies to all industrial flour mills including semolina mills and including mills without purifiers. It covers the setting of the mill for a variety of grists and finished flour. The miller must also take into account the capability of equipment and the need to avoid imbalances, product build ups and chokes.

Licensing/Regulatory Information

There is no occupational licensing relevant to this Unit.

Pre-Requisites

Nil.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare or interpret mill flow sheet	1.1 Identify all breaking, reduction and dressing stages in mill. 1.2 Destinations for all stock separations are shown. 1.3 Identify all optional and ancillary equipment. 1.4 Identify all bins, silos, chutes, conveyors and exhausts. 1.5 Maintain diagram showing all equipment and stock flow.
2. Prepare for flour and byproduct production	2.1 Establish customer requirements for shift or production period. 2.2 Follow recipe required to meet desired production quality and quantity targets. 2.3 Check availability of required wheat stock. 2.4 Determine if any changes to grist stock will be required and plan for changes to settings.
3. Determine break system settings	3.1 Adjust break rolls for desired percentage release. 3.2 Conduct visual inspection and test sieving where required to monitor release percentage. 3.3 Monitor break roll passages to avoid saturation of later stages. 3.4 Set bran finishers. 3.5 Set plansifters for desired grading including adjusting spaces between plansifters for varying grains and moisture levels. 3.6 Monitor performance of break system to ensure system is free from semolina.
4. Determine settings for purifiers where fitted	4.1 Maintain and monitor sieve covers. 4.2 Monitor feed rate to purifiers. 4.3 Monitor horizontal and vertical movement of sieve covers. 4.4 Set and monitor air pressure for each aspiration section. 4.5 Select destinations for throughs and lifted bran and other particles. 4.6 Ensure purifier stock is free from flour.
5. Determine settings for scratch or sizing system	5.1 Set scratch equipment or sizing rolls. 5.2 Monitor performance of scratch and sizing rolls.
6. Determine settings for reduction passages	6.1 Set each set of reduction rolls for desired flour and capacity of succeeding reduction passages. 6.2 Monitor covers on sifters for effective dressing from each reduction roll. 6.3 Monitor flake disrupters and impact detachers where fitted. 6.4 Set and monitor reduction settings to achieve required starch

- damage.
- 6.5 Specify collection conveyors and bins for each flour stream.
7. Determine settings for final production stages
- 7.1 Specify use of flour dividers for blends.
- 7.2 Monitor redressing equipment.
- 7.3 Monitor weighing, infestation destroying and metal removal equipment.
- 7.4 Send finished flour to packing or storage.
8. Monitor mill equipment
- 8.1 Check flutes and rolls for wear and defects.
- 8.2 Monitor temperature of reduction rolls and performance of water cooling if used.
- 8.3 Check automatic roll adjustment and protection mechanisms are working correctly.
- 8.4 Adjust mill settings when required for effect of breakdowns and urgent maintenance.
9. Monitor mill performance
- 9.1 Ensure all grain and flour tests are carried out to required schedule and procedures.
- 9.2 Adjust settings where required for variation in grain, grist and atmospheric conditions.
- 9.3 Monitor milling and invisible loss per production period.

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills include:

Ability to:

- interpret mill flow diagrams
- perform contingency planning for equipment breakdown including failure mode effects analysis
- balance dressing surfaces across break and reduction stages
- adjust break rolls to take into account:
 - number of break stages
 - grist composition
 - specification of finished product
- estimate break roll percentages through visual examination, hand stratification and test sieving.

Required knowledge includes:

Knowledge of:

- alternative and historical milling techniques including:
 - stone grinding
 - "low" or one pass through grinding
 - use of small manual or electric milling machines
 - semolina process vs traditional flour milling process
- conventions and techniques in drawing mill flow diagrams
- characteristics of different grists and their milling requirements
- purpose design and steps in the break process including:
 - overall aim of removing bran from endosperm in large pieces while minimising bran powder and flour
 - roller design
 - flute design
 - roller speed
 - number of passages
 - destinations of product from each break roll
- purpose, design and principles of the purification process including:
 - sieve design
 - role of sifting, shaking, gravity and aspiration (upward air)

- screening decks
- exhaust ports and chambers
- collection of throughs
- overtails
- relationship of purification to later reduction stages
- scratch equipment and process to remove small pieces of bran and germ from endosperm after sizing or purification
- relationship of particle size to reduction roller efficiency
- reduction which grinds flour into required fineness while controlling damage to starch granules and minimising abrasion to any bran and germ particles present
- features and performance characteristics of milling equipment as specified in manufacturers reference material
- relationship between total dressing surface ratio to mill capacity
- calculation of break roll percentages
- mill balance requirements and techniques including:
 - ensuring that stock does not return to immediate preceding passage or equipment
 - feed to first break at a constant rate
 - evenness of feed into rolls
 - maintenance of conveyor and air settings to achieve constant feed
- calculation of mill performance including:
 - invisible loss rate
 - theoretical and actual milling loss rate.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this Unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this Unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • interpret mill flow diagrams and production requirements • set and monitor break and reduction system equipment • achieve flour recipes through correct use of grists and mill settings • adjust mill settings for breakdowns and other contingencies.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • equipment manuals including operating parameters • specifications, control points and processing parameters • break and reduction roll process and related equipment and services • conditioned grain suitable for the break and reduction roll process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This Unit should be assessed together with core Units and other Units of Competency relevant to the function or work role.</p>

Guidance information for assessment	To ensure consistency of performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------------------------	---

Range Statement

<p>The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Mill	The term mill is used to refer to the whole mill site including the actual milling equipment, equipment used for associated processes, and transport, warehouse, maintenance, testing and administration facilities.
Mill flow diagram	A mill flow diagram is a representation of the flow of products through the mill process.
Mill balance	Mill balance refers to achieving settings where each passage in the grain breaking and reduction process ensures that other passages and equipment operate on optimum quantity and quality of stock. It also refers to ensuring that the overall surface area (available contact area for product) is appropriate for that stage or passage and the mill as a whole.
Grain acceptance specifications may include:	<ul style="list-style-type: none"> • weight • protein • moisture • odour • foreign object criteria • pests and pest treatment residues.
Grinding can refer to:	<ul style="list-style-type: none"> • the break system which is the process of opening up the grain and scraping away the endosperm • the reduction system which is the process of reducing the endosperm until it can be classified as flour.
Extraction rate	The extraction rate is the number of parts by weight of flour obtained from a hundred parts of grain.
Optional equipment	<p>Optional equipment is milling equipment not found in every mill. Examples include:</p> <ul style="list-style-type: none"> • bran finishers/brushes • germ production machines • bran rolls • bran grinding rolls

	<ul style="list-style-type: none"> • micro-detachers.
Throughs	Stock which falls through apertures at each sifting or purifying stage.
Overtails	<p>Stock left after throughs are collected and which depending on the stage may be:</p> <ul style="list-style-type: none"> • endosperm particles with adhering bran • mainly bran • bran and endosperm requiring further treatment.
Wheatfeed	By product of the milling process including bran of varying sizes and varying amounts of attached endosperm.
Scalping	Scalping is the separation of coarse overtails after grinding
Roll adjustment	Adjustment of roll gaps may be done manually or through computerised.

Unit Sector(s)

Grain Processing

FDFGR4001A Control power and automation for milling processes

Modification History

Not applicable.

Unit Descriptor

This Unit covers the matching of milling requirements to available services and equipment including electricity, gas and other fuels, steam generation, hydraulics and pneumatics. It also includes use of computerised and other control equipment to achieve desired milling outcomes.

Application of the Unit

This Unit applies to millers who are required to set and control milling equipment in industrial flour mills including semolina mills and mills without purifiers. It also covers development of strategies for effective use of power and automation and directing programmed and other maintenance in order to ensure that milling performance is maintained. The Unit requires work to be undertaken in accordance with all regulatory and OHS requirements.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify range of utilities and services used by mill	1.1 Establish distributed services used in mill. 1.2 Ensure schematics showing location and distribution of services are available and understood by key personnel. 1.3 Categorise services as critical to mill operation or ancillary. 1.4 Develop contingency strategies in the event of failure of a critical service for the mill.
2. Review mill electric power system for start-up and power demand management	2.1 Identify mains supply terminal, input voltage and electricity supplier. 2.2 Identify mill transformers and distribution to sub-mains. 2.3 Identify back-up generation and supply system including automatic and manual operation conditions. 2.4 Identify location of mill equipment and areas supplied by each sub-main and switchboard. 2.5 Identify key features and requirements of installed electrical safety systems including lock off and isolation switches. 2.6 Obtain maximum demand and diversity factor (power factor correction) and identify implications for mill operations. 2.7 Establish motor control and start up procedures according to manufacturer, engineer and supply authority procedures.
3. Review scope of hydrocarbon fuel use by mill	3.1 Identify capacity and fuel use of any on-site boilers. 3.2 Identify emergency generators and their fuel source. 3.3 Identify other fuel powered equipment and processes. 3.4 Identify location of fuel reservoirs/tanks and review against mill strategy for the prevention of dust explosions.
4. Identify type and location of mill controls	4.1 Identify mill operations and equipment controlled automatically. 4.2 Identify mill operations and equipment controlled through central process control stations/ terminals. 4.3 Identify mill operations and equipment controlled manually. 4.4 Establish back up strategies for mill control in the event of failure of control equipment.
5. Control pneumatic conveying system	5.1 Determine processes where negative or positive pressure is required. 5.2 Monitor air speed and volume requirements for conveying tasks. 5.3 Select air speed and volume appropriate for exhausts. 5.4 Balance negative pressure systems. 5.5 Monitor for abnormal increases in blowline pressure.

- 5.6 Determine cleaning intervals for dust collectors.
- 6. Control wheat damping and conditioning
 - 6.1 Monitor adequacy of water supply.
 - 6.2 Determine if feedforward or feedback system is used.
 - 6.3 Supervise moisture testing of wheat.
 - 6.4 Set damping system controls for desired moisture level taking into account feed rate and lying in time.
- 7. Establish strategies and practices for efficient use of power and automation
 - 7.1 Maximise throughput to mill capacity where possible.
 - 7.2 Ensure manufacturers' maintenance and lubrication schedules are followed.
 - 7.3 Ensure standard operating procedures for controls and workstations are developed and up to date.

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills include:

Ability to:

- integrate equipment maintenance and lubrication strategies with production requirements
- interpret manuals, other technical information, diagrams and drawings
- identify maximum power demand for mill
- identify typical range of power demand for mill taking into account scope of equipment and average production requirements.

Required knowledge includes:

Knowledge of:

- types of electric motors and their advantages and disadvantages
- motor control and motor protection strategies
- mechanical power transmission types and principles including:
 - direct drives
 - belt drives
 - chain drives
 - gears
- factors influencing the velocity of particles in free air and in positive and negative air streams
- design principles used in exhaust systems for fans, ductwork and dust collectors
- advantages and disadvantages of axial flow, propeller and centrifugal fans
- advantages and disadvantages of forward, backward and radial bladed rotors
- purpose and function of instrumentation including:
 - proximity switches
 - position sensors
 - transducers
 - tachometers
 - flow meters
 - weighers
 - load cells
 - bin level indicators
 - pressure switches
 - PLCs, SCADA (System Control And Data Acquisition systems) and other programmable instrumentation and systems.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this Unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this Unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify mill equipment and its location and function • determine control equipment and control options for mill • establish risk management and contingency strategies for mill power and automation.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • equipment manuals including operating parameters • specifications, control points and processing parameters. • break and reduction roll process and related equipment and services • conditioned grain suitable for the break and reduction roll process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This Unit should be assessed together with core Units and other Units of Competency relevant to the function or work role.</p>
<p>Guidance information for</p>	<p>To ensure consistency of performance, competency should be demonstrated on more than one occasion</p>

assessment	over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
------------	---

Range Statement

<p>The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Mill	The term mill is used to refer to the whole mill site including the actual milling equipment, equipment used for associated processes, and transport, warehouse, maintenance, testing and administration facilities.
Fuel	Fuel refers to hydrocarbon energy sources consumed on site including coal, gas (LNG/LPG), diesel, petrol, fuel oil etc.
Equipment may include:	<ul style="list-style-type: none"> • rollers • purifiers • sifters • gravity feeds • pneumatic feeds • pumps • transformers, switchboards, motors and circuit protection.
Balancing negative pressure air systems	Balancing of negative air pressure systems may be done manually or through setting and monitoring of automatic air control valves.

Unit Sector(s)

Grain Processing

FDFGR4002A Supervise testing processes for wheat and flour

Modification History

Not applicable.

Unit Descriptor

This Unit covers the establishment and supervision of specific quality and testing processes for wheat and flour in a flour mill. The Unit covers the setting of tests to be undertaken, the establishment of acceptable limits and maintaining of accuracy in the mill testing regime.

Application of the Unit

This Unit applies to a flour mill supervisor who is responsible for establishing and supervising the quality regime operating in the mill including compliance with regulatory and commercial requirements. This Unit covers the specific skill and knowledge required for an effective testing regime in a flour mill. The Unit applies to all industrial flour mills including semolina mills and mills without purifiers. It includes ensuring testing and monitoring processes are established and followed and implementation of procedures to be followed in the event of a failure to achieve required performance. The emphasis in this Unit is on the grain and flour specific quality and testing processes used in flour milling. The Unit provides specific industry skill and knowledge and complements other more general quality and compliance Units including Units relating to Hazard Analysis And Critical Control Points (HACCP), and lean manufacturing.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify desired flour specification and other relevant factors for mill products and performance	1.1 Identify customer specification. 1.2 Review range and availability of suitable grain. 1.3 Set target range for grain and flour tests to achieve customer specification, consistency and maximum yield. 1.4 Identify mill critical control points. 1.5 Identify regulatory requirements relevant to mill and mill products.
2. Establish sampling procedures and tests for grain	2.1 Determine tests and sampling for received grain. 2.2 Determine tests and sampling for grists. 2.3 Determine tests and sampling for grain conditioning.
3. Establish sampling procedures and tests for flour	3.1 Determine flour tests to be undertaken at each reduction stage. 3.2 Determine number of samples to be taken to ensure representative results are achieved. 3.3 Determine reference tests required for milling. 3.4 Establish procedures for storage and labelling of samples.
4. Establish statistical process control procedures for mill	4.1 Establish procedures for recording of test results and monitoring period. 4.2 Establish normal distribution standard deviation targets for each test. 4.3 Monitor standard deviations for out of control results. 4.4 Review results against reference tests. 4.5 Determine root cause of out of control results.
5. Establish procedures for test equipment maintenance and accuracy	5.1 Establish maintenance schedules for test equipment in conjunction with suppliers and maintenance staff. 5.2 Identify schedule and staff for calibration of test equipment. 5.3 Ensure written procedures for each test identify actions to be followed in the event of actual or suspected equipment malfunction. 5.4 Arrange for testing of control samples at commencement of each shift or run. 5.5 Record test results and establish monitoring procedures to identify operator or equipment test result variations not related to variation in wheat or flour. 5.6 Arrange for operator training or equipment variation as appropriate.

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills includes:

Ability to:

- supervise wheat and flour related tests including tests for:
 - moisture
 - contamination/purity
 - protein level
 - protein quality
 - ash content
 - colour
 - starch proportion
 - gluten elasticity and extensibility
- apply basic statistical skills sufficient to calculate averages, means and population and sample standard deviations from given data
- determine tests appropriate to HACCP system critical control points
- determine maintenance schedule and procedures for test equipment
- determine calibration procedures and schedule for test equipment.

Required knowledge includes:

Knowledge of:

- effect of reduction and break stages on flour characteristics including:
 - protein level
 - protein quality
 - ash content
 - colour
 - starch proportion
 - dough rheology
- test and test procedures appropriate to grain including:
 - sample appearance and smell
 - sieving for sample purity
 - near infrared test (NIR) and other tests for moisture, protein content, colour and grain hardness
 - difference between "as is" and "dry weight" and moisture corrected moisture results and conversion of other parameters
 - gluten washing test for protein quality
 - Hagberg Falling Number test including conversion of results to Perten Liquefaction

Numbers

- Kern chondrometer test and other specific weight tests
- tests and test procedures related to flour including:
 - NIR tests for flour moisture, protein content, colour, water absorption, ash content
 - Colour testing using Kent-Jones and Martin flour colour grader
 - Pekar test
 - Laboratory sieve tests
 - Brabender Extensograph and Farinograph test for dough stretching
 - viscosity tests
 - starch damage tests (Farrand method etc.)
 - Chittick test for carbon dioxide release
 - baking tests
- reference tests used for calibration including:
 - oven test for moisture
 - Zeleny test for protein quality
 - Single Kernel Characterisation System (SKCS) test
 - Stenvert test for hardness
 - Electrophoresis test for variety
 - Image analysis for particle size and colour
 - muffle furnace test for ash content
 - fibre tests
- expected extraction rate for different stages of the milling process
- Australian grain characteristics relevant to milling including:
 - variety
 - wheat segregations including soft, Australian Premium White (APW), Hard, Prime Hard (PH)
 - other Australian grain segregations
- typical composition of bread, biscuit and cake making flours including moisture, sugar, starch, protein, fibre, and mineral matter
- flour characteristics giving rise to faults in bread, pasta or other flour based products including:
 - incorrect flour strength
 - incorrect *alpha*-amylase activity
 - incorrect amount of damaged starch
 - bran contamination
 - incorrect improver dosage
 - heat damaged wheat
 - tainted flour
- microbiology tests for grain and flour
- tests used in manufacture of byproducts.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this Unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this Unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • determine tests appropriate to grain used in, and products made by a mill • determine sampling rates for tests • integrate testing regime with HACCP system • maintain integrity of mill testing regime through use of control and reference tests and appropriate calibration and maintenance of test equipment.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • equipment manuals including operating parameters • specifications, control points and processing parameters • break and reduction roll process and related equipment and services • conditioned grain suitable for the break and reduction roll process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This Unit should be assessed together with core Units and other Units of Competency relevant to the function or work role.</p>
<p>Guidance information for</p>	<p>To ensure consistency of performance, competency</p>

assessment	should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
------------	--

Range Statement

<p>The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Mill	The term mill is used to refer to the whole mill site including the actual milling equipment, equipment used for associated processes, and transport, warehouse, maintenance, testing and administration facilities.
Stages of the flour milling process are:	<ul style="list-style-type: none"> • wheat intake • conditioning • feed to first break • flour coming off each mill i.e. from break and reduction rollers • blending and processing • packing and/or dispatch.
Reference tests	Reference tests are tests which can be used for calibration of other test equipment and procedures. Reference tests can also refer to time consuming or non-standard tests used for specific flours or for investigating unusual results in other tests.
Alpha-amylase	Alpha-amylase is one of the enzymes which break down starch in germinating grain.
Improvers	Improvers are substances which improve the baking quality of flour.

Unit Sector(s)

Grain Processing

FDFGR4003A Manage mill logistics and support services

Modification History

Not applicable.

Unit Descriptor

This Unit covers the management of support and logistics services to ensure safe and efficient operation of a flour mill. The Unit covers establishing and supervising the handling, storage, despatch and distribution of materials including grain, flour and byproducts. It also covers supervision of hygiene, OHS, pest control and security procedures.

Application of the Unit

This Unit applies to a flour mill manager and other senior staff who are responsible for determining and supervising logistics and support services for a flour mill to ensure efficient operation of the mill and compliance with regulatory and commercial requirements. The Unit applies to industrial milling of all types of grain. Logistics and services covered by the Unit include stock control, transport and storage, blending, packing and despatch, security, and pest control. Supervision of dust control procedures is also covered in the Unit.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Review mill plan and flow diagram to ensure all logistics and support services are correctly identified	1.1 Ensure incorporation of grain and other materials receiving locations. 1.2 Ensure incorporation of all grain, flour and by-product storage facilities. 1.3 Review mill flow diagram for inclusion of all break and reduction system equipment and intermediate storage facilities. 1.4 Ensure incorporation of all administration, maintenance, utilities and storage areas. 1.5 Identify directly milled and blended flour products in product flow diagrams and relate to storage and despatch facilities.
2. Support product flow through mill	2.1 Review facilities and set operating procedures for grain receipt. 2.2 Ensure operators have required training and test materials for testing grain. 2.3 Ensure storage availability for received grain including any divisions. 2.4 Determine intermediate storage requirements based on forward production schedule. 2.5 Establish product handling, storage and despatch procedures for just-in-time customers. 2.6 Establish product handling, storage and despatch procedures for daily, weekly or other regular deliveries. 2.7 Identify any non-standard storage and despatch requirements. 2.8 Establish and supervise inspection and cleaning regime for bins and silos. 2.9 Establish and supervise temperature and moisture testing for storage bins and silos.
3. Establish mill stock control system	3.1 Integrate warehouse control and information requirements with mill management and control system. 3.2 Ensure customer orders are passed as soon as possible after receipt to production, storage, and transport departments. 3.3 Establish bin stock measuring frequency and method. 3.4 Set and monitor weighbridge operation and recording procedures for all bulk inward and outward grain and mill products. 3.5 Identify locations for automatic and manual recording of internal product transfers.

- 3.6 Establish authorisation and access procedures for use of additives and adjuncts.
- 4. Supervise blending of flours to meet orders
 - 4.1 Supervise internal transfer of flour to holding bins.
 - 4.2 Determine if volumetric, on-line or batch blending is to be used.
 - 4.3 Determine formula for required blend including any required additives and adjuncts.
 - 4.4 Specify flours to be used to most economically achieve required formula.
 - 4.5 Supervise blending operation including data entry into batch or process control computer.
 - 4.6 Supervise transfer of blended flour to packing, despatch or storage.
- 5. Supervise product despatch
 - 5.1 Set and monitor "give away" margin above minimum weight in packed flour.
 - 5.2 Supervise operation of bag and sack packing, closing equipment.
 - 5.3 Determine where required if enterprise or contract vehicles are to be used.
 - 5.4 Supervise bag, sack and bulk flour despatch as appropriate.
 - 5.5 Supervise packing and despatch of by-products including palletisation of wheatfeed where required.
- 6. Manage OHS, mill safety, security and regulatory procedures for mill or area of responsibility
 - 6.1 Establish or review perimeter security.
 - 6.2 Establish site access control point for all vehicle and pedestrian traffic.
 - 6.3 Review adequacy of truck holding and turnaround facilities.
 - 6.4 Establish or review site OHS plan and procedures.
 - 6.5 Ensure personal protective equipment (PPE), pedestrian walkways, and other pedestrian safety procedures are known and followed.
 - 6.6 Review fire protection plan and fire protection facilities including location and type of extinguishers, suppression systems and alarms.
 - 6.7 Review visitor reception, registration and escort protocols for visitor access to non-administration areas.
 - 6.8 Establish compliance procedures for environmental, food safety and other regulatory requirements.
- 7. Review mill dust control procedures
 - 7.1 Review equipment and storage cleaning schedule and procedures for dust control effectiveness.
 - 7.2 Arrange regular inspections for potential ignition sources.
 - 7.3 Review current dust control and dust explosion relief equipment and arrange for any required maintenance or

- additional dust control/dust explosion relief equipment.
- 7.4 Establish training in dust control procedures for all employees and contractors.
8. Manage pest control procedures
- 8.1 Review site pest control plan.
- 8.2 Ensure all employees are trained to identify signs of insect, rodent and bird infestation.
- 8.3 Establish inspection, sampling and testing regime for all equipment, storage areas and all inward and outward goods.
- 8.4 Determine cause and type of infestations.
- 8.5 Specify appropriate control measures for insect.
- 8.6 Supervise protection of employees, community and product during treatments.
- 8.7 Ensure compliance with regulations and environmental guidelines.
- 8.8 Establish pest reporting and treatment recording procedures.
9. Manage contractors for mill or area of responsibility
- 9.1 Establish schedule of contractors and their capabilities for services not performed in-house.
- 9.2 Establish procedures and delegations for engaging contractors.
- 9.3 Establish site access register for contractors.
- 9.4 Ensure contractors are briefed on all mill regulatory and commercial requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills include:

Ability to:

- interpret drawings and schematics
- calculate grain holding capacity including in terms of days of production
- specify grain divisions on receipt to suit later blending requirements
- schedule flour blending to suit customer requirements and transport logistics
- identify pests
- assess equipment and storage areas for dust control risks.

Required knowledge includes:

Knowledge of:

- methods of storing grain, flour, bran and byproducts
- temperature and moisture testing techniques for grain storage bins and silos
- dust control techniques
- dust explosion relief systems and equipment
- fire warning and control techniques
- flour blending techniques and equipment
- flour milling process including purpose of the break and reduction systems
- advantages and disadvantages of volumetric, batch and on-line flour blending techniques
- equipment used in flour blending including:
 - weighers
 - mixers and homogenisers
 - pneumatic and mechanical feeders and conveyors
 - magnets, sifters and exhausts
- identification characteristics for pest insects, rodents and birds
- signs of insect and rodent infestation
- strategies to eliminate or reduce pests
- optimum treatments for insect, rodent and bird infestations
- safe procedures for handling, using and storing pesticides and dangerous goods, identifying identification of information provided on labels, and where required, handling of gas cylinders
- typical risk management and contingency planning techniques for a flour mill.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this Unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this Unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • relate rate of production to storage capacity • identify requirements of mill customers and determine if orders are to be directly filled or met out of storage • interpret customer flour requirements and determine best blend recipe • manage pest and dust control techniques in a mill • access and use mill control system.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • equipment manuals including operating parameters • specifications, control points and processing parameters • break and reduction roll process and related equipment and services • conditioned grain suitable for the break and reduction roll process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This Unit should be assessed together with core Units and other Units of Competency relevant to the function or work role.</p>

Guidance information for assessment	To ensure consistency of performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------------------------	---

Range Statement

<p>The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Mill	<p>The term mill is used to refer to the whole mill site including the actual milling equipment, equipment used for associated processes, and transport, warehouse, maintenance, testing and administration facilities.</p>
Mill management and control system	<p>Most flour mills will use a software program and associated hardware to control and manage all or part of a mill. These mill management and control systems can be known by a variety of generic and proprietary names including:</p> <ul style="list-style-type: none"> • Systems Control and Data Acquisition (SCADA) software • Enterprise Resource Planning (ERP) systems • Materials Resource Planning (MRP) systems • various proprietary names.
Non-standard storage and despatch requirements	<p>Non-standard storage and despatch requirements include:</p> <ul style="list-style-type: none"> • storage location and time for any products that need ageing before despatch • buffer product requirements for market fluctuations, irregular orders, shutdowns and other non-production periods • contingency product storage requirements.
Site OHS plan and procedures include:	<ul style="list-style-type: none"> • employee training • tagging and lock-out procedures • PPE distribution and use requirements • marking of pedestrian walkways • confined space procedures • visitor registration and allowed/restricted access areas • incident procedures • evacuation assembly areas • first-aid facilities • notification protocols to emergency services

	<ul style="list-style-type: none"> • training and registration of fire and first aid wardens.
Pest control methods may include:	<ul style="list-style-type: none"> • fumigation • application of insecticides, dusts, gas and/or baits (using registered controlled and generally available substances). <p>Where use of pesticides include work conditions covered by SafeWork Australia and/or State and Territory health and safety authorities, the assessment criteria and methods prescribed by these authorities must also be met.</p>
Fire protection plan and fire protection facilities include:	<ul style="list-style-type: none"> • location and type of extinguishers • suppression systems • alarms • appointment of wardens • evacuation areas and procedures • notification and liaison procedures for emergency services.
Contractors	<p>Contractors used will vary according to each mill and may include contractors for:</p> <ul style="list-style-type: none"> • maintenance • transport • testing and accreditation services • labour supply • security.

Unit Sector(s)

Grain Processing

FDFGR4004A Establish and supervise dust control procedures in a grain processing enterprise

Modification History

Not applicable.

Unit Descriptor

This Unit applies to the establishment and supervision of dust control procedures in a grain milling enterprise. It includes procedures for the identification of risk factors, establishment of preventative and hygiene measures, use of explosion relief and fire suppression systems and arranging training for employees.

Application of the Unit

This Unit applies to managers and supervisors in grain related enterprises including flour and stock feed mills and grain storage facilities, who have responsibility for the development and detailed implementation of dust control and dust explosion prevention strategies in a grain related enterprise. For milling enterprises, this Unit goes beyond the overview level included in the Unit FDFGR4005A Manage mill logistics and support services.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor dust explosion risk factors	<ul style="list-style-type: none">1.1 Establish and monitor procedures for detecting potential explosive atmosphere.1.2 Set procedures for reporting visible dust leaks.1.3 Establish and enforce no smoking policy.1.4 Establish and monitor reporting regime for potential ignition sources.1.5 Establish and supervise manual and automatic temperature, smoke and moisture monitoring for all grain, flour, feed and other byproduct storage.1.6 Establish systems to minimise fungal and insect infestation caused temperature increases.
2. Establish dust control procedures	<ul style="list-style-type: none">2.1 Install and monitor dust aspiration or suction ventilation systems.2.2 Establish dust checking procedures for all confined spaces.2.3 Establish monitoring procedures for dust collector performance and output.2.4 Establish procedures for resealing of all dust leaks.2.5 Undertake random and periodical checks on performance of dust control procedures.2.6 Assess and approve any variation in cleaning and hygiene procedures.2.7 Minimise storage of combustible materials in mill.2.8 Establish minimum dust levels for mandatory use of personal protective equipment.2.9 Establish procedures for monitoring and control of environmental dust release.
3. Integrate equipment use, monitoring and maintenance with dust control procedures	<ul style="list-style-type: none">3.1 Establish regular cleaning schedule for all surfaces in contact with graining or flour.3.2 Establish mill equipment condition monitoring schedule with maintenance department.3.3 Establish regular lubrication schedules for bearings, pulleys, shafts and other moving and friction surfaces.3.4 Use anti-static materials where possible.3.5 Establish approval, tagging and monitoring procedures for use of all portable tools and equipment in mill.
4. Establish fire and dust explosion suppression systems	<ul style="list-style-type: none">4.1 Review adequacy of current dust control and dust explosion relief equipment and arrange for any required maintenance.4.2 Arrange for any required additional dust control/dust explosion relief equipment in existing protected areas.

-
- 4.3 Investigate potential for use of fire and explosion suppression systems in areas not currently protected.
 - 4.4 Locate and establish inspection regime for all explosion relief panels.
 - 4.5 Set test and maintenance procedures for all existing fire and explosion suppression systems.
5. Supervise dust and fire control training
- 5.1 Identify fire and dust wardens for mill areas.
 - 5.2 Establish emergency procedures.
 - 5.3 Identify dust and fire control content for use in induction training.
 - 5.4 Identify training needs of existing employees.
 - 5.5 Establish dust and fire control training arrangements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills include:

Ability to:

- analyse areas and equipment in grain enterprises for dust and fire risk
- schedule housekeeping, training, and maintenance procedures to achieve objectives while minimising impact on production including:
 - scheduling maintenance for dust suppression systems and equipment and explosion relief panels
 - bin/silo inspections and cleaning
- control potential ignition sources
- assess automatic and manual monitoring techniques against enterprise needs.

Required knowledge includes:

Knowledge of:

- technologies and techniques for controlling grain dust in grain milling, handling and storage facilities including:
 - pneumatic dust collection
 - housekeeping
 - enclosing of equipment
 - use of liquid additives
 - misting and fogging (where permitted)
- advantages and disadvantages of mechanical and pneumatic product conveying
- types of bin/silo and exhaust designs and implications for dust generation and control
- requirements for a grain dust explosion to occur including typical sources in a grain enterprise of:
 - oxygen
 - ignition
 - fuel
 - contained space
- effects of fungal and pest infestation on grain and flour temperature
- minimum explosive concentrations (MEC) for grain dust in the milling or storage operation (will vary according to the type of grain and particle size)
- location of bin explosion relief panels
- explosion suppression systems
- confined space procedures and regulations.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this Unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this Unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • assess equipment and processes for dust explosion and fire risk • into dust and fire control procedures into standard operating procedures for all employees • identify dust and fire control training requirements • consult with internal department heads and external organisations on dust control procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • equipment manuals including operating parameters • specifications, control points and processing parameters • break and reduction roll process and related equipment and services • conditioned grain suitable for the break and reduction roll process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This Unit should be assessed together with core Units and other Units of Competency relevant to the function or work role.</p>
<p>Guidance information for</p>	<p>To ensure consistency of performance, competency</p>

assessment	should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
------------	--

Range Statement

<p>The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Mill</p>	<p>The term mill is used to refer to the whole mill site including the actual milling equipment, equipment used for associated processes, and transport, warehouse, maintenance, testing and administration facilities.</p>
<p>Dust</p>	<p>Dust refers to grain, flour and other combustible particles found in a grain enterprise that are capable of suspension in air.</p>
<p>Potential ignition sources</p>	<p>Potential ignition sources are any sources that may generate sparks or sufficient heat to start combustion and include:</p> <ul style="list-style-type: none"> • naked flames • welding • equipment sparking • hot equipment (motors etc.) • smoking • hot spots in grain and flour storage • static electricity.
<p>Dust and fire control training arrangements may include:</p>	<ul style="list-style-type: none"> • appointment of internal trainers • training delivered by equipment suppliers • appointment of an external training provider • setting an allocation for dust and fire control training in the training budget • rostering of employees for training • establishing training records • conduct of drills and exercises.

Unit Sector(s)

Grain Processing

FDFLAB2001A Perform basic analytical tests

Modification History

This unit supersedes but is not equivalent to FDFLABBATA Perform basic analytical tests.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to perform a range of analytical tests and measurements in a winery laboratory using standard methods. Work is usually done under routine supervision.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for applying basic laboratory principles when performing basic tests.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2011 A	Use basic laboratory equipment

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for testing	<ul style="list-style-type: none">1.1 Samples are registered and prepared for testing1.2 Materials are prepared to meet requirements1.3 Services are confirmed as available and ready for use1.4 Equipment is selected, prepared and checked to confirm readiness for use1.5 Defects in samples, test materials and equipment are identified, rectified and/or reported
2. Perform testing	<ul style="list-style-type: none">2.1 Test method is carried out according to workplace procedures2.2 Equipment and materials are used according to workplace procedures2.3 Results are read and interpreted2.4 Out-of-standard results are identified and appropriate action taken
3. Complete testing	<ul style="list-style-type: none">3.1 Waste generated by the testing is monitored and cleared according to workplace procedures3.2 Equipment is prepared for cleaning3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	<ul style="list-style-type: none">4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify testing requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas. This may include other laboratory personnel, cellar, winemaker and production personnel
- confirm supply of necessary materials, equipment and services
- prepare samples for testing
- prepare materials as required
- confirm equipment status and condition. This may include:
 - confirmation that test equipment is operating accurately
 - recognising and rejecting contaminated or faulty glassware and/or equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- monitor the process and test equipment to identify out-of-standard results or non-compliance
- report and/or record corrective action according to workplace procedures
- follow procedures to repeat or validate results
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- identify, rectify or report environmental non-compliance
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- principles of the test method

- purpose of the test
- relevant standards and specifications and basic legislative requirements (e.g. quality, health, safety, labelling and equipment) and their implications
- procedures and operating parameters
- affect of process stages on results
- start-up and set-up procedures as required
- common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required
- normal range of results for products tested
- recording requirements and procedures
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- recording requirements and procedures
- routine maintenance procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for conducting tests • conduct basic tests according to workplace requirements • identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Sample preparation	<p>Sample preparation may include:</p> <ul style="list-style-type: none"> • fining • filtration • centrifugation • dissolving • degassing
Tests	<p>The range of tests performed may include the following techniques:</p> <ul style="list-style-type: none"> • volumetric analysis, titration (acid base/redox), pipetting, densities, refractive indices, filtration, distillation/reflux, gravimetric tests, potentiometry

RANGE STATEMENT	
	<p>and turbimetric analysis</p> <p>Typical tests performed at this level should include:</p> <ul style="list-style-type: none"> sugar by hydrometry and refractometry, pH, baumé/brix, titratable acid, alcohol, sulphur dioxide, protein stability, tartrate stability and may include reducing sugars, volatile acid, ascorbic acid, malic acid by chromatography, YAN by titration, turbidity, specific gravity/density, simple colourimetric analysis, carbon dioxide, dissolved oxygen, and other tests as required by the workplace
Equipment	Equipment may vary and should include that listed in SOPs
Materials	Materials may vary and should include those listed in SOPs
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational checking the operation and/or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> water gas power
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB2002A Perform basic microbiological tests

Modification History

This unit supersedes and is equivalent to FDFLABBMTA Perform basic microbiological tests.

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to perform a range of microbiological tests and procedures in a winery laboratory using standard methods. Work is usually done under routine supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for applying basic laboratory principles to perform basic microbiological tests.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2012A	Maintain aseptic environment* <i>FDFLAB2011A Use basic laboratory equipment</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to perform microbiological procedures	1.1 Materials are confirmed and available for use 1.2 Materials are prepared to meet requirements 1.3 Services are confirmed as available and ready for use 1.4 Equipment is selected, prepared and checked to confirm readiness for use
2. Perform microbiological procedures	2.1 Equipment is operated according to instructions 2.2 Procedures are carried out according to instructions 2.3 Equipment is monitored to confirm operating condition 2.4 Out-of-standard process, equipment performance or results and anomalies are identified, rectified and/or reported
3. Complete microbiological procedures	3.1 Waste generated by the procedure is disposed of according to workplace procedures 3.2 Equipment is prepared for cleaning 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm equipment status and condition
- carry out tests according to workplace procedures
- read and interpret results as required
- record results as required and complete workplace information
- monitor the process and equipment to identify out-of-specification results or non-compliance
- take corrective action in response to out-of-specification results, anomalies or non-compliance
- report and/or record corrective action according to workplace procedures
- follow procedures to repeat or validate results as required
- differentiate between wine yeast and bacterial cells under a microscope as required
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- maintain work area to meet housekeeping standards. This will include maintenance of aseptic environment
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- clean and sanitise equipment according to enterprise procedures
- identify, rectify or report environmental non-compliance according to enterprise procedures
- perform oil emersion and phase contrast techniques according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- principles of the procedure
- purpose of the procedure
- relevant standards and specifications and basic legislative requirements (e.g. quality, health,

- safety, labelling and equipment) and their implications
- procedure specification and operating parameters
 - affect of process stages on results
 - start-up and set-up procedures required
 - how to read, interpret and record results as required
 - normal range of results for procedures performed
 - Occupational health and safety (OHS) hazards and controls
 - procedures and responsibility for reporting problems
 - environmental issues and controls
 - procedures and responsibility for reporting problems
 - cleaning and sanitising requirements of equipment and work area
 - aseptic requirements and techniques
 - growth characteristics of yeast/bacteria
 - lock-out and tag-out procedures as required
 - emergency and troubleshooting procedures for a range of operational problems
 - services required
 - common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required
 - shutdown sequence as required
 - environmental issues and controls
 - recording requirements and procedures
 - cleaning and sanitising procedures where relevant
 - routine maintenance procedures where relevant
 - oil emersion and phase contrast techniques where relevant
 - relationship with other standards where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for conducting tests • conduct basic microbiological tests according to workplace requirements • interpret results and identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Sampling	<p>Sampling should conform to:</p> <ul style="list-style-type: none"> • relevant food standards code
Tests	<p>The range of tests performed may include the following techniques:</p> <ul style="list-style-type: none"> • sterile filtration, aseptic transfer, basic microscopy, slide preparation, staining, basic colony/cell identification and centrifugation <p>Typical tests and procedures performed at this level may include:</p> <ul style="list-style-type: none"> • yeast counts in ferments/cultures, sterility monitoring, hygiene monitoring, yeast/bacteria

RANGE STATEMENT	
	enumeration and differentiation, and other tests as required by the workplace
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • personal protective equipment • inoculating loops • spreaders • pipettes • syringes • needles • flasks • tubes • filtration apparatus • microscopes • counting chambers • colony counting devices • Bunsen burners • water baths • incubators • laboratory glassware and measuring equipment • laminar flow cabinets • ultraviolet (UV) cabinets • autoclaves • microwave ovens • hot air ovens • sharps disposal receptacles • biological waste receptacles
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • culture media • live/dehydrated cultures • filters • stains • reagents • disinfecting and sterilising agents
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards, pre-start requirements are met and that equipment is operational • checking the operation and/or calibration of measuring instrumentation

RANGE STATEMENT	
Services	Services may include: <ul style="list-style-type: none">• water• steam• gases• power
Information systems	Information systems may be: <ul style="list-style-type: none">• print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB2003A Perform basic packaging tests and inspections

Modification History

This unit supersedes and is equivalent to FDFLABBPTA Perform basic packaging test and inspections.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit has covers the skills and knowledge required to carry out the tests and inspections required to monitor product and process at various control points on an operating packaging line. Work is usually done under routine supervision.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for applying basic packaging tests and inspections.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2011A	Use basic laboratory equipment

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify requirements for packaging testing	<p>1.1 Key packaging equipment is identified and its function and operating principles explained</p> <p>1.2 Enterprise packaging line quality assurance policy and procedures are interpreted and applied to the work place</p>
2. Prepare for testing	<p>2.1 Samples are registered and prepared for testing</p> <p>2.2 Services are confirmed and available and ready for use</p> <p>2.3 Appropriate equipment is selected, prepared and checked in readiness for use</p> <p>2.4 Defects in samples, materials and test equipment are identified, rectified and/or reported</p>
3. Perform on-line packaging tests	<p>3.1 Test method is carried out according to workplace procedures</p> <p>3.2 Equipment and materials are used according to workplace procedures</p> <p>3.3 Results are read and interpreted accurately</p> <p>3.4 Out-of-standard results are identified and appropriate action taken</p>
4. Complete on-line packaging tests	<p>4.1 Waste generated by the procedure is disposed of according to workplace procedures</p> <p>4.2 Equipment is cleaned, stored and maintained according to workplace procedures</p> <p>4.3 Work is conducted in accordance with workplace environmental guidelines</p>
5. Record information	<p>5.1 Workplace information is recorded in the appropriate format</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify testing requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials, equipment and services
- liaise with other work areas. This may include:
 - laboratory personnel
 - bottling and packaging
 - marketing
 - maintenance
 - warehouse
- prepare samples for testing
- confirm test equipment status and condition. This may include:
 - confirming that test equipment is operating accurately
 - recognising and rejecting contaminated or faulty glassware and equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- operate test equipment according to workplace procedures and manufacturer instructions
- carry out routine tests
- read and interpret results as required
- record results as required and complete workplace information
- monitor the process and test equipment to identify out-of-specification results or non-compliance
- take corrective action in response to out-of-specification results, anomalies or non-compliance
- report and/or record corrective action according to workplace procedures
- follow procedures to repeat or validate results as required
- shut down test equipment in response to an emergency situation
- shut down test equipment in response to routine shutdown requirements
- sort, collect, treat, recycle or dispose of waste
- maintain work area to meet housekeeping standards.
- clean and store equipment
- dismantle test equipment in preparation for cleaning according to enterprise procedures
- take samples according to enterprise procedures

- carry out routine maintenance according to enterprise procedures
- identify, rectify or report environmental non-compliance according to enterprise procedures
- utilise aseptic techniques according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- common bottling and packaging techniques
- enterprise policy and procedure with regard to:
 - packaging line quality assurance testing
 - occupational health and safety (OHS)
- purpose and principles of the test
- relevant standards and specifications, and basic legislative requirements (e.g. quality, health, safety, labelling and equipment) and their implications
- procedure specification and operating parameters
- affect of sampling and testing stages on results or outcomes
- start-up and set-up procedures required
- services required
- common causes and knock-on effects of inaccuracies and preventive or corrective action required
- how to read, interpret and record results as required
- normal range of results on products or packaging items tested
- emergency procedures for a range of operational problems
- procedures and responsibility for reporting problems
- recording requirements and procedures
- OHS hazards and controls
- lock-out and tag-out procedures as required
- shutdown sequence as required
- cleaning and sanitising requirements of equipment and work area
- environmental issues and controls
- sampling plan and procedures where relevant
- cleaning and sanitising procedures where relevant
- routine maintenance procedures where relevant
- aseptic techniques where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for conducting packaging tests and inspections • conduct basic tests according to workplace requirements • identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Tests	<p>Tests may include:</p> <ul style="list-style-type: none"> • fill height or volume • softpack checks • pressure test (head space pressure, vacuity and sparkling wine) • stopper and cork tests (moisture, extraction force, insertion depth and visual inspection) • label checks (height, orientation and adhesion) • carton checks (make-up and basic faults)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • identification codes (batch codes and pallets) • product and process audits • other enterprise specific tests (e.g. rinser checks)
Packaging equipment	<p>Packaging equipment may include:</p> <ul style="list-style-type: none"> • wine handling equipment (pumps, storage tanks, fillers and stirrers) • fillers (vacuum, counter pressure, syphon and bag) • cappers (cork, stopper and screw cap) • capsulers (hood, shrink on and spin on) • labellers (glue and pressure sensitive) • packers and sundry equipment
Test equipment	<p>Test equipment may include:</p> <ul style="list-style-type: none"> • fill height measure • pressure tester • top pan analytical balance • vernier calipers • steel rule • torque tester • force gauge • head space pressure gauge
Packaging items	<p>Packaging items may include:</p> <ul style="list-style-type: none"> • bottles • closures • capsules • muselets • labels • cartons • bags
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • water • gases • power
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFLAB2004A Prepare laboratory solutions and stains

Modification History

This unit supersedes and is equivalent to FDFLABLSSB Prepare laboratory solutions and stains.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to prepare a variety of solutions and stains for general use in the winery laboratory.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for preparing laboratory solutions and stains.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2011A	Use basic laboratory equipment

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare materials and equipment	1.1 Materials are confirmed and available for use 1.2 Materials are prepared to meet requirements 1.3 Services are confirmed as available and ready for use 1.4 Equipment is selected, prepared and checked to confirm readiness for use
2. Prepare solutions and stains	2.1 Equipment is monitored to confirm operating condition 2.2 Out-of-specification process, equipment performance, or results and anomalies are identified, rectified and/or reported 2.3 Solutions and stains meet specification 2.4 Waste generated by the process is monitored and cleared according to workplace procedures 2.5 Work is conducted in accordance with workplace environmental guidelines
3. Record information	3.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify solution and stain requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials, equipment and services. This may include:
 - selecting the appropriate equipment, quality of water and concentration of reagents
 - checking the shelf life of materials
- liaise with other work areas
- prepare materials as required
- confirm equipment status and condition. This may include:
 - recognising and rejecting contaminated or faulty glassware and equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- set up and/or start up equipment as required
- operate basic laboratory equipment according to workplace procedures
- deliver accurate measurements of materials
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may include:
 - the handling and combining of reagents
 - measures to prevent cross-contamination
- meet solution and stain specifications. This may include:
 - concentration
 - contents
 - homogenous mix
- take corrective action and/or report out-of-specification results, anomalies or non-compliance
- report and/or record corrective action as instructed
- complete workplace information, which may include labelling
- store solutions and stains according to workplace procedures. This may include consideration of light, temperature, contamination and shelf-life
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing consumables
- record workplace information

- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- clean and sanitise equipment according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- identify, rectify or report environmental non-compliance according to enterprise procedures
- utilise aseptic techniques according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and features of basic laboratory materials
- purpose and features of a range of basic laboratory solutions and stains
- affect of inappropriate storage on solution and stain quality and performance
- emergency and troubleshooting procedures for a range of operational problems
- affect of process stages on results and outcomes
- process specifications, procedures and operating parameters
- start-up and set-up procedures as required
- services required
- common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- cleaning and sanitising requirements of equipment and work area
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- routine maintenance procedures where relevant
- environmental management procedures where relevant
- aseptic techniques where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • prepare equipment and materials • prepare solutions and stains according to workplace requirements • identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor, or senior operator
Equipment	Equipment may vary and should include that listed in the SOPs
Materials	<p>Materials include:</p> <ul style="list-style-type: none"> • reagents • purified water
Solutions and stains	<p>Solutions and stains include:</p> <ul style="list-style-type: none"> • those required for standard analytical and microbiological procedures and other tests determined by the scope and classification of the laboratory

RANGE STATEMENT	
Confirming equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards, pre-start requirements are met and that equipment is operational • checking the operation and/or calibration of measuring instrumentation
Services	Services may include: <ul style="list-style-type: none"> • power • water • gases
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB2005A Prepare and pour culture media

Modification History

This unit supersedes and is equivalent to FDFLABPCMA Prepare and pour culture media.
 September 2012: clarified pre-requisite information.
 April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to prepare and dispense culture media for microbiological tests in a winery laboratory. Work is usually done under routine supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for conducting microbiological tests.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2012A	Maintain aseptic environment* <i>FDFLAB2011A Use basic laboratory equipment</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare materials and equipment	1.1 Appropriate materials are selected and confirmed as available for use 1.2 Materials are prepared to meet requirements 1.3 Work area is prepared to meet requirements 1.4 Services are confirmed as available and ready for use 1.5 Equipment is selected, prepared and checked to confirm readiness for use
2. Prepare culture media	2.1 Media and solvent are mixed thoroughly according to workplace procedures and manufacturer instructions 2.2 Media is placed in appropriate vessels for sterilisation 2.3 Steriliser is loaded and operated to achieve optimum sterilising conditions for culture media 2.4 Sterilisation cycle is monitored to confirm equipment operating condition 2.5 Appropriate personal protective equipment is used when removing media from steriliser 2.6 Culture media is cooled as required 2.7 Out-of-specification process and equipment performance is identified, rectified and/or reported
3. Complete preparation of culture media	3.1 Heat labile additions are made using aseptic technique as required 3.2 Media is dispensed aseptically as specified 3.3 Culture media is stored and labelled according to instructions 3.4 Media is monitored to confirm quality specifications are maintained 3.5 Equipment and work area are cleaned and/or disinfected after use 3.6 Waste generated by the process is monitored and cleared according to workplace procedures 3.7 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify culture media requirements
- select, fit and use appropriate personal protection clothing and/or equipment
- confirm equipment status and condition. This may include recognising and rejecting contaminated or faulty glassware and equipment
- confirm supply of necessary materials, equipment and services. This may include recognising and rejecting out-of-specification materials
- liaise with other work areas
- set up and start up equipment as required
- operate equipment according to workplace procedures
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may include:
 - the handling and combining of materials
 - the utilisation of aseptic techniques
- make culture media to specification
- take corrective action and/or report out-of-specification results, anomalies or non-compliance
- report and/or record corrective action according to workplace procedures
- complete workplace information, which may include labelling
- store dry and prepared culture media according to workplace procedures. This may include consideration of:
 - light
 - temperature
 - shelf-life
 - contamination
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing consumables
- maintain work area to meet housekeeping standards. This will include maintenance of aseptic environment
- record workplace information
- clean and store equipment
- clean and sanitise equipment according to enterprise procedures
- identify, rectify or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation,

including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and features of culture media
- affect of inappropriate storage on culture media quality and performance
- emergency and troubleshooting procedures for a range of operational problems
- affect of process stages on results and/or outcomes
- process specifications, procedures and operating parameters
- services required
- common causes of inaccuracies or contamination, and preventive or corrective action required
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- cleaning and sanitising requirements of equipment and work area
- recording requirements and procedures
- aseptic requirements and techniques
- cleaning and sanitising procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for media preparation • prepare media according to workplace requirements • maintain sterilisation standards • identify and act on out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • Material Safety Data Sheets (MSDS) • work notes • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Culture media	<p>Culture media may include:</p> <ul style="list-style-type: none"> • agars and broths required for the analyses and techniques performed by the microbiology laboratory
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • hot plate/stirrer • autoclave • analytical balance • pH meter

RANGE STATEMENT	
	<ul style="list-style-type: none"> • measuring cylinders • volumetric flasks and glassware • media storage vessels • McCartney bottles • test tubes • pipettes • filtration apparatus
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • dehydrated commercial preparations • juices • additives • Petri dishes • cotton wool • aluminium foil • sterilisation indicators • filters
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards, pre-start requirements are met and that equipment is operational • checking the operation and/or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • water • power • steam • gases
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB2006A Record laboratory data

Modification History

This unit supersedes and is equivalent to FDFLABRLDA Record laboratory data.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit has covers the skills and knowledge required to record and store laboratory data, to perform simple calculations, and interpret relevant information in tables, charts and graphs. Work is usually done under routine supervision
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for conducting laboratory operations.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Record and store laboratory data	<ul style="list-style-type: none">1.1 Laboratory data is coded and/or transcribed according to workplace procedures1.2 Data is recorded according to document quality assurance requirements1.3 Data is entered into laboratory information system or record sheets1.4 Errors in data are rectified using enterprise procedures1.5 Data is stored and retrieved using appropriate files and/or application software
2. Interpret laboratory data	<ul style="list-style-type: none">2.1 The appropriate source for information is identified and data retrieved2.2 Information in tables, charts and graphs is interpreted and applied as required2.3 Deviations in performance are identified and anomalies in data are reported to supervisor
3. Maintain accurate records	<ul style="list-style-type: none">3.1 Information is transcribed in an accurate and timely manner3.2 The accuracy of records is verified according to workplace procedures3.3 Workplace records are filed and stored according to workplace procedures3.4 Reference documents are filed in a logical manner, kept up to date and secured where necessary3.5 Workplace confidentiality standards are maintained

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- identify and access information management system to interpret and verify laboratory data
- code, record and check the documentation of data
- use a simple spreadsheet or database program to store and retrieve data
- calculate results using whole numbers, simple fractions and decimals
- calculate percentages, ratios and proportions
- verify calculations by using estimation techniques and rectify mistakes
- record results in the required format. This may include:
 - scientific notation
 - unit conversions
 - multiples and submultiples
 - significant figures
 - rounding off
- read and apply information from simple graphs, charts and tables
- identify deviations in performance. This may involve checking data against specifications, standards and previous test results
- maintain the confidentiality of data according to workplace procedures
- keep records up to date
- secure records as required
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of workplace information management system, including:
 - document control
 - verification
 - confidentiality
- workplace policy and procedures with regard to:
 - coding laboratory data (e.g. tank location, batch, analysis details, vintage, variety, stage

- of production and symbols, such as + or –)
- entering laboratory data
 - storing laboratory data
 - retrieving laboratory data
 - communicating laboratory data
 - verifying laboratory data
 - correcting mistakes
 - mathematical symbols and diagrams
 - mathematical processes
 - estimation processes
 - purpose of graphs, charts and tables
 - common expressions of concentration, including:
 - weight per volume of solution (w/v)
 - percentage weight per volume (% (w/v))
 - parts per million (ppm)
 - milligrams per litre (mgL⁻¹)
 - weight per weight of solution (w/w)
 - volume per volume of solution (v/v)
 - percentage volume of solution (% (v/v))
 - molarity (M)
 - normality (N)
 - presentation of laboratory data in the information management system
 - procedures and responsibility for reporting problems.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access and interpret laboratory data • record and store data according to work practices • identify variations or deviations in data and validate accuracy • maintain data according to workplace standards.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where

EVIDENCE GUIDE	
	possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • laboratory data • Standard Operating Procedures (SOPs) • specifications • standards • certificates of compliance • quality assurance records • scientific articles and publications • reference texts • product information and purchase details (e.g. supplier catalogues and handbooks) • calibration records • maintenance and service records • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions
Data	<p>Laboratory data may include:</p> <ul style="list-style-type: none"> • the results of inspections, tests, quality or safety audits, trials, product or process non-compliance, and materials compliance validation

RANGE STATEMENT	
	<p>Data may be presented in the form of:</p> <ul style="list-style-type: none"> graphs, histograms, bar charts, pie charts, control charts, tables and spreadsheets <p>Data may be recorded:</p> <ul style="list-style-type: none"> manually on worksheets, or through the use of computer-based systems and entered into spreadsheets or databases
Calculations	<p>Calculations may be performed:</p> <ul style="list-style-type: none"> manually or with a calculator or computer software
Arithmetic processes	<p>Arithmetic processes may include:</p> <ul style="list-style-type: none"> simple calculations involving addition, subtraction, multiplication, division, percentage, ratio and proportion
Record verification	<p>Verification of records may be achieved by:</p> <ul style="list-style-type: none"> consulting standards, specifications, analytical tolerances, document version control, signatories and dates
Information management	<p>Information management systems may be:</p> <ul style="list-style-type: none"> print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB2007A Standardise laboratory solutions

Modification History

This unit supersedes and is equivalent to FDFLABSLSB Standardise laboratory solutions.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers skills and knowledge required to standardise solutions for general use in the winery laboratory.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for preparing laboratory solutions.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2011A	Use basic laboratory equipment

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to standardise solution	1.1 Materials are confirmed and available for use 1.2 Materials are prepared to meet requirements 1.3 Services are confirmed as available and ready for use 1.4 Equipment is selected, prepared and checked to confirm readiness for use
2. Standardise the solution	2.1 Equipment is monitored to confirm operating condition 2.2 Out-of-specification process, equipment performance, or results and anomalies are identified, rectified and/or reported 2.3 Calculations are completed accurately following workplace procedures 2.4 Standardised solution meets specification
3. Complete standardisation of solution	3.1 Standardised solution is stored according to instructions 3.2 Equipment is disassembled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials, equipment and services. This may include:
 - selecting the appropriate equipment, quality of water, purity and concentration of reagents and indicators
 - checking shelf-life dates
- liaise with other work areas
- prepare materials as required
- confirm equipment status and condition. This may include:
 - recognising and rejecting contaminated or faulty glassware and equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- set up and start up equipment as required
- operate laboratory equipment according to workplace procedures
- standardise solution to meet specification
- determine concentration of solution accurately, using a calculator and example calculations
- monitor the process and equipment to identify out-of-specification results or non-compliance. This may include:
 - handling and combining of reagents
 - measures to prevent cross-contamination
- take corrective action in response to out-of-specification results, anomalies or non-compliance
- report and/or record corrective action as instructed
- complete workplace information. This may include labelling
- store solution according to workplace procedures. This may include consideration of:
 - light
 - temperature
 - contamination
 - shelf-life
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation as required
- shut down equipment in response to routine shutdown requirements as required. This may

- include removing consumables
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- clean and sanitise equipment according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- identify, rectify or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- basic chemical principles behind the process
- purpose and features of basic laboratory materials
- purpose and features of a range of basic laboratory solutions
- affect of inappropriate storage on solution quality and performance
- emergency and troubleshooting procedures for a range of operational problems
- affect of process stages on results and outcomes
- process specifications, procedures and operating parameters
- start-up, set-up procedures as required
- services required
- common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required
- process of accurately following example calculations
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- cleaning and sanitising requirements of equipment and work area
- recording requirements and procedures
- cleaning and sanitising procedures where relevant
- routine maintenance procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for standardising solutions • standardise solutions according to workplace requirements • conduct accurate calculations • identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • text books • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Equipment	Equipment may vary and should include that listed in the SOPs
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • solutions • indicators • purified water • reference materials

RANGE STATEMENT	
	<ul style="list-style-type: none"> chemical reagents
Solutions	<p>Solutions may include:</p> <ul style="list-style-type: none"> those required for standard analytical procedures and other tests determined by the scope and classification of the laboratory
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and any pre-start requirements are met and that equipment is operational checking the operation and/or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> power water gases
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB2008A Analyse laboratory data

Modification History

This unit supersedes and is equivalent to FDFLABALDA Analyse laboratory data.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to perform routine laboratory calculations, analyse trends and report results.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for analysing and interpreting laboratory data.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2006A	Record laboratory data

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Perform laboratory calculations	<ul style="list-style-type: none">1.1 Raw data is confirmed within standard or normal range of results1.2 Arithmetic processes involving decimals, fractions, ratios, proportions and concentrations are used to perform laboratory calculations1.3 Scientific quantities are calculated using given formulae and data1.4 Calculated quantities are verified by using estimation techniques1.5 Data is presented using the relevant corrections, factors, units, and number of significant figures
2. Analyse laboratory data	<ul style="list-style-type: none">2.1 Data is analysed to determine if the product and/or process is in control2.2 Trends and anomalies in data are identified and reported2.3 Possible causes for variation or non-compliance are identified and/or investigated2.4 Corrective action is taken to maintain process and/or product within control according to workplace procedures
3. Report results	<ul style="list-style-type: none">3.1 Charts, tables and graphs are used to present results in the correct format3.2 Correct data entry is verified3.3 Reports are prepared in the required format3.4 Results are communicated within the specified time3.5 Workplace confidentiality standards are maintained

Required Skills and Knowledge

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
<ul style="list-style-type: none"> • Perform laboratory calculations 	<ul style="list-style-type: none"> • Raw data is confirmed within standard or normal range of results • Arithmetic processes involving decimals, fractions, ratios, proportions and concentrations are used to perform laboratory calculations • Scientific quantities are calculated using given formulae and data • Calculated quantities are verified by using estimation techniques • Data is presented using the relevant corrections, factors, units, and number of significant figures
<ul style="list-style-type: none"> • Analyse laboratory data 	<ul style="list-style-type: none"> • Data is analysed to determine if the product and/or process is in control • Trends and anomalies in data are identified and reported • Possible causes for variation or non-compliance are identified and/or investigated • Corrective action is taken to maintain process and/or product within control according to workplace procedures
<ul style="list-style-type: none"> • Report results 	<ul style="list-style-type: none"> • Charts, tables and graphs are used to present results in the correct format • Correct data entry is verified • Reports are prepared in the required format • Results are communicated within the specified time • Workplace confidentiality standards are maintained

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct calculations to analyse scientific data • document and record analytical data according to workplace standards • identify trends, anomalies and variations • identify causes for variations.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where

EVIDENCE GUIDE	
	possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • laboratory data • Standard Operating Procedures (SOPs) • specifications • standards • certificates of compliance • quality assurance records • scientific articles or publications • reference texts • product information and purchase details (e.g. supplier catalogues and handbooks) • calibration records • maintenance or service records • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions
Data	<p>Laboratory data may include:</p> <ul style="list-style-type: none"> • the results of inspections, tests, quality or safety audits, trials, product or process non-compliance, materials compliance validation, calibration or maintenance schedules

RANGE STATEMENT	
	<p>Data may be presented in the form of:</p> <ul style="list-style-type: none"> graphs, histograms, bar charts, pie charts, control charts and tables <p>Data may be recorded:</p> <ul style="list-style-type: none"> manually on worksheets through the use of computer-based systems and entered into spreadsheets or databases
Calculations	<p>Calculations may be performed:</p> <ul style="list-style-type: none"> manually or with a calculator or computer software
Arithmetic processes	<p>Arithmetic processes may include:</p> <ul style="list-style-type: none"> calculations involving percentages, ratios, proportion, factors, tolerances, areas, volumes, weights, concentrations, cell counts and process variables
Record verification	<p>Verification of records may be achieved by:</p> <ul style="list-style-type: none"> consulting standards, specifications, analytical tolerances, document version control, signatories and dates
Reports	<p>Reports will involve:</p> <ul style="list-style-type: none"> verification of inspection and test data against specifications before presenting results to supervisor using standard laboratory forms, worksheets, spreadsheets and databases
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFLAB2009A Perform packaging quality control procedures

Modification History

This unit supersedes and is equivalent to FDFLABPQCA Perform packaging quality control procedures.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to carry out laboratory tests and inspections on incoming packaging materials and outgoing products. It also covers the underpinning knowledge required to participate in bottling and packaging process improvement activities.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for ensuring packaging procedures meet quality standards.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2011A	Use basic laboratory equipment

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify requirements for packaging testing	1.1 Key features of packaging materials are identified and their quality characteristics explained 1.2 Enterprise packaging line quality assurance policy and procedures are interpreted and applied to the work place
2. Prepare for testing	2.1 Samples are registered and prepared for testing 2.2 Services are confirmed and available and ready for use 2.3 Appropriate equipment is selected, prepared and checked in readiness for use 2.4 Defects in samples, test materials and equipment are identified, rectified and/or reported
3. Perform packaging tests	3.1 Test method is carried out according to workplace procedures 3.2 Equipment and materials are used according to workplace procedures 3.3 Results are read and interpreted accurately 3.4 Out-of-standard results are identified and appropriate action taken
4. Complete packaging tests	4.1 Waste generated by the procedure is disposed of according to workplace procedures 4.2 Equipment is cleaned stored and maintained 4.3 Work is conducted in accordance with workplace environmental guidelines
5. Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify testing requirements
- interpret enterprise policy and procedures and apply them in the enterprise. These may cover occupational health and safety (OHS) and quality assurance
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials, equipment and services
- liaise with other work areas. This may include:
 - laboratory personnel
 - bottling and packaging
 - marketing
 - suppliers
- prepare samples for testing. This may include:
 - verification procedures
 - specific production specifications
 - data logging
- confirm equipment status and condition. This may include:
 - confirming that test equipment is operating accurately
 - recognising and rejecting contaminated or faulty glassware and equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- operate equipment according to workplace procedures and manufacturer instructions
- carry out routine and specialised tests
- read and interpret results as required
- record results as required and complete workplace information
- monitor the process and test equipment to identify out-of-specification results or non-compliance
- identify key features of packaging materials and recognise faults or out-of-specification standards
- take corrective action in response to out-of-specification results, anomalies or non-compliance
- report and/or record corrective action according to workplace procedures
- follow procedures to repeat or validate results as required
- sort, collect, treat, recycle or dispose of waste

- shut down test equipment in response to an emergency situation
- shut down test equipment in response to routine shutdown requirements
- maintain work area to meet housekeeping standards.
- clean, store and maintain equipment
- dismantle equipment in preparation for cleaning according to enterprise procedures
- take samples according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- identify, rectify or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- manufacture and design of packaging items, which may include:
 - corks and closures
 - cartons
 - labels
 - capsules
 - softpack components
 - other packaging items
- operating principles of common bottling and packaging equipment
- quality standards and specifications of packaging items
- common causes of faults or below standard packaging processes and items, and preventive or corrective action required
- enterprise policy and procedures with regard to:
 - packaging line quality assurance testing
 - OHS
- purpose and principles of test
- relevant standards and specifications and basic legislative requirements (e.g. quality, health, safety, labelling and equipment) and their implications
- procedure specification and operating parameters
- affect of sampling and testing stages on results and/or outcomes
- start-up and set-up procedures required
- services required
- common causes and knock-on effects of inaccuracies and preventive or corrective action required
- how to read, interpret and record results as required
- normal range of results on products and/or packaging items tested

- recording requirements and procedures
- OHS hazards and controls
- lock-out and tag-out procedures as required
- emergency and troubleshooting procedures for a range of operational problems
- procedures and responsibility for reporting problems
- shutdown sequence as required
- cleaning and sanitising requirements of equipment and work area
- environmental issues and controls
- sampling plan and procedures where relevant
- cleaning and sanitising procedures where relevant
- routine maintenance procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify quality requirements for packaging • prepare equipment and materials for conducting packaging tests and inspections • conduct tests according to workplace requirements • identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Tests	<p>Tests may include:</p> <ul style="list-style-type: none"> • softpack checks (drop test, inspection, tap orientation and glue) • cork tests (grading, moisture, wine travel, hydraulic pressure, extraction force, taint testing and cork surface treatment tests) • closures (Stelvin® caps, crown seals, stoppers, torque tests and visual inspection) • label checks (proofreading, scuff, grain direction,

RANGE STATEMENT	
	colour and barcode) <ul style="list-style-type: none"> • carton checks (visual inspection, slotting and creasing, board, flute, dimensions, proofreading, colour, delamination and glue lap) • identification codes • product audits • other enterprise specific tests
Test equipment	Test equipment may include: <ul style="list-style-type: none"> • tensile tester • scuff tester • top pan analytical balance • vernier caliper • internal vernier caliper • steel rule • torque tester • oven
Packaging items	Common packaging items may include: <ul style="list-style-type: none"> • bottles • closures • capsules • muselets • labels • cartons • bags • glue
Services	Services may include: <ul style="list-style-type: none"> • water • gases • power
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFLAB2010A Prepare product or show samples

Modification History

This unit supersedes and is equivalent to FDFLABPSSB Prepare product or show samples.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the laboratory stream of the wine sector. It covers the skills and knowledge required to prepare product samples.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for preparing samples for bottling and packaging.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2011A	Use basic laboratory equipment

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Set up to prepare sample	1.1 Product and materials are confirmed and available to meet sample requirements 1.2 Equipment is checked to confirm readiness for use 1.3 Services are confirmed as available and ready for operation
2. Prepare sample for bottling	2.1 Product is blended as required to meet sample specifications 2.2 Sample is treated and processed for bottling according to workplace procedures and specific instructions 2.3 Equipment is set up and operated to meet sample specifications according to workplace procedures 2.4 Control points and equipment are monitored to confirm performance is maintained within specification 2.5 Prepared sample meets specifications 2.6 Out-of-specification sample, process or equipment performance is identified, rectified and/or reported
3. Bottle and package sample	3.1 Bottling equipment is set up, operated and monitored according to workplace procedures 3.2 Prepared sample is bottled and labelled according to workplace procedures and sample specifications 3.3 Samples are packaged and prepared for dispatch according to workplace procedures and sample specifications
4. Complete sample preparation activities	4.1 Equipment is shut down according to workplace procedures 4.2 Equipment is prepared for cleaning according to workplace procedures 4.3 Waste is collected, treated and disposed of or recycled according to workplace procedures 4.4 Work is conducted in accordance with workplace environmental guidelines 4.5 Samples awaiting dispatch are stored according to sample specifications
5. Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify sample preparation requirements and specifications
- liaise with clients. These may include:
 - cellar
 - bottling hall
 - marketing
 - winemaker
 - show society representatives
 - trade representatives
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- confirm equipment status and condition. This may include checking hygiene and sanitation processes are complete
- set up, start up and operate equipment to prepare sample to specification requirements
- prepare product and materials in correct quantity and sequence. This may include:
 - sanitising bottles
 - tasting or checking quality of product sample to be processed
 - preparing trade labels
- blend products to meet sample specifications. This may include:
 - ensuring a homogenous mix
 - activities to minimise oxidation and contamination
 - interpreting and calculating ratios
 - sensory evaluation of samples
- treat or process sample ready for bottling. This may include:
 - preparing and making additions and finings
 - operating filtration and separation equipment
 - activities to minimise oxidation and contamination
 - cold stabilisation
- set up, start up and operate sample processing equipment to meet sample specifications. This may include appropriate selection of:
 - centrifuge speed
 - filler size
 - stabilisation temperatures

- inert gases
- monitor control points and equipment operation. This may include monitoring:
 - additions
 - sensory evaluation
 - clarity
- prepare a sample to meet specifications.
- recognise and identify non-conformance (e.g. wine faults and out of condition product) and out-of-specification results
- take corrective action for out-of-specification results and non-conformance
- report and/or record corrective action required
- bottle and label product samples. This may include:
 - operating manual or automatic bottling equipment
 - flushing with inert gas
 - meeting desired fill height
 - avoiding contamination
 - sealing bottle
 - providing accurate, legible and relevant information on label
 - ensuring effective adhesion of label
- pack samples for dispatch. This may include:
 - inserting in bottle capsules or post packs
 - packing in boxes
 - minimising risk of breakage or damage
 - including relevant documentation
 - providing handling and delivery instructions on outside of package
 - arranging dispatch and transport of samples
- store prepared samples appropriately. This may involve consideration of:
 - temperature
 - leakage or seal maintenance
 - occupational health and safety (OHS)
 - specific instructions
 - vibrations
 - ultraviolet (UV) light
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation and routine shutdown requirements
- maintain workplace records
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing prior to cleaning and sanitising
- clean and sanitise equipment
- conduct routine preventive maintenance according to enterprise procedures

- take samples according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of providing product samples
- workplace policy and procedures, with regard to:
 - providing samples
 - preparing samples
 - packaging samples
 - labelling samples
 - dispatching and transporting samples
- quality characteristics of products and materials used and affect on sample outcome
- equipment and instrumentation components, purpose and operating parameters
- services used
- significance and method of monitoring control points within the process
- common causes of variation or inaccuracies and corrective action required
- OHS hazards and controls
- procedures and responsibility for reporting problems
- cleaning and sanitising requirements
- routine maintenance requirements of equipment
- waste handling requirements and procedures
- blending processes and procedures
- effect of oxidation on product sample quality and techniques to minimise oxidation
- routine maintenance procedures where relevant
- sampling techniques where relevant
- wine sensory evaluation techniques where relevant
- analytical test procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for preparing sample • blend, treat, process and bottle sample according to workplace requirements • identify out-of-standard results • shut down equipment, conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor, or senior operator
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and/or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water

RANGE STATEMENT	
	<ul style="list-style-type: none"> gases
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based
Product samples	<p>Product samples may be for:</p> <ul style="list-style-type: none"> show competitions trade shows marketing departments overseas and domestic buyers educational purposes
Equipment	<p>Equipment should include that which is required to prepare a sample to winemaker's or production manager's specifications and workplace standards. It may include, but is not limited to:</p> <ul style="list-style-type: none"> filters centrifuges fillers laboratory equipment
Control points	<p>Control points refer to those key points in a work process which must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> food safety (critical) quality and regulatory control points inspection points
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> additions and finings equipment consumables (e.g. filters) bottles corks stoppers labels packaging pens
Products	<p>Products may include:</p> <ul style="list-style-type: none"> still, sparkling and fortified wines spirits juices
Sample specifications	<p>Sample specifications may include:</p>

RANGE STATEMENT	
	<ul style="list-style-type: none"> • winemaker instructions • entry requirements • production manager requirements • trade requirements
Wine faults	Wine faults may include: <ul style="list-style-type: none"> • tartrates • excess sulphur • haze
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB2011A Use basic laboratory equipment

Modification History

This unit supersedes and is equivalent to FDFLABLETB Use basic laboratory equipment.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to operate a range of basic laboratory equipment. Work is usually done under routine supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations environment. It typically targets the worker responsible for using basic laboratory equipment to conduct sampling of wine product components.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare basic laboratory equipment for use	1.1 Materials are confirmed and available for use 1.2 Materials are prepared to meet requirements 1.3 Services are confirmed as available and ready for use 1.4 Equipment is selected, prepared and checked to confirm readiness for use
2. Use basic laboratory equipment and techniques	2.1 Equipment is set up and operated according to workplace procedures 2.2 Accurate measurements are delivered 2.3 Out-of-specification process and equipment performance is identified, rectified and/or reported
3. Complete equipment operation	3.1 Equipment is prepared for cleaning 3.2 Work is conducted in accordance with workplace environmental guidelines 3.3 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm supply of necessary materials, equipment and services
- prepare materials as required
- select equipment appropriate for the task
- liaise with other work areas
- confirm equipment status and condition. This may include:
 - recognising and rejecting contaminated or faulty glassware and equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- follow operating procedures and deliver accurate amounts. This can involve:
 - weighing
 - centrifuging
 - separating
 - pipetting
 - measuring
 - titrating
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. What should be monitored will vary between equipment (e.g. with calibrated glassware, the meniscus position)
- take corrective action and/or report out-of-specification results, anomalies or non-compliance
- report and/or record corrective action as instructed
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements. This may include removing samples or consumables
- record workplace information
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- lean and sanitise equipment according to enterprise procedures
- carry out routine maintenance according to enterprise procedures

- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use aseptic techniques according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose, principles and use of a range of basic laboratory equipment
- identity, features and operating techniques of basic laboratory equipment
- equipment and instrumentation components, purpose and operation
- process specifications, procedures and operating parameters
- affect of process stages on results and/or outcomes
- emergency procedures for a range of operational problems
- services required
- significance and method of monitoring equipment operation
- common causes and knock-on effects of inaccuracies or cross-contamination, and preventive or corrective action required
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- cleaning and sanitising requirements of equipment and work area
- recording requirements and procedures
- cleaning and sanitation procedures where relevant
- routine maintenance procedures where relevant
- aseptic techniques where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • safely use basic laboratory equipment according to procedure • prepare and store equipment according to work requirements • take measurements • complete workplace records.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of

EVIDENCE GUIDE

	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements

Workplace information

Workplace information may include:

- Standard Operating Procedures (SOPs)
- specifications
- production schedules
- instructions
- work notes
- Material Safety Data Sheets (MSDS)
- manufacturer instructions
- verbal direction from manager, supervisor, or senior operator

Equipment and glassware

Equipment and glassware may include:

- balances, autoclaves, laminar flow cabinets, fume cupboard, centrifuge and other separating equipment
- general and volumetric glassware, pipettes, burettes, incubators, ovens, filtration apparatus, thermometers, hydrometers, transfer and inoculation tools

It does not include any specialist equipment required under other units

Materials

Materials may include:

- filters
- chemical reagents

RANGE STATEMENT	
	<ul style="list-style-type: none"> • samples
Equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and/or calibration of measuring instrumentation
Services	Services may include: <ul style="list-style-type: none"> • power • water • gases
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB2012A Maintain aseptic environment

Modification History

This unit supersedes and is equivalent to FDFLABMAEA Maintain aseptic environment.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to operate in an aseptic laboratory environment. Work is usually done under routine supervision.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations environment. It typically targets the worker responsible for preparing and maintaining an area to aseptic standards.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2011A	Use basic laboratory equipment

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare aseptic environment	1.1 Hygiene and sanitation procedures for operator are completed according to safe laboratory guidelines 1.2 Work surfaces are cleaned and disinfected 1.3 Materials and services are prepared for use 1.4 Equipment is prepared for sterilising 1.5 Equipment is sterilised to meet requirements 1.6 Sterilising waste is deposited in collection area or disposed of according to workplace procedures
2. Operate in an aseptic environment	2.1 Equipment and materials are selected which are appropriate for the task 2.2 Appropriate sterilising techniques are selected and used 2.3 Aseptic transfers are conducted using techniques which minimise the risk of contamination 2.4 Aseptic environment is maintained during work procedures
3. Maintain aseptic environment	3.1 Work area is cleaned and disinfected after use 3.2 Equipment is cleaned in preparation for sterilising or placed into relevant disposal or disinfection receptacles 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas
- confirm supply of necessary materials equipment and services. This may include selecting the appropriate sterilising techniques
- handle sterilising agents safely and correctly
- prepare sterilisers as required
- prepare materials and equipment for sterilising. This includes rendering equipment safe to sterilise. It may also involve removing faulty equipment from service (e.g. chipped glass), correctly wrapping, labelling, loading and sealing
- use appropriate sterilising techniques. This may include activities to prevent cross-contamination
- set up, start up and operate sterilising equipment according to workplace procedures
- return equipment to operating order after sterilisation
- maintain and store sterilisers and related equipment according to workplace procedures
- carry out relevant checks and inspections. This may include:
 - checking pressure equipment calibration status
 - performing safety checks
 - use of autoclave tape, chemical indicators and spore strips
 - sterility control plates
- record sterilisation data in required format
- use appropriate sample handling and transfer techniques to maintain aseptic environment. This may include:
 - streaking
 - swabbing
 - pouring
 - pipetting
- maintain appropriate personal hygiene standards according to workplace procedures
- maintain work area to meet housekeeping standards and hygiene requirements
- record workplace information
- take samples according to enterprise procedures
- identify, rectify and/or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation,

including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of sterilisation
- safe handling and storage of sterilising agents used
- functions and features of sterilising equipment and agents
- sterilising requirements of work area and equipment
- procedures for preparing sterilising agents
- procedures for applying and using sterilising agents
- correct operating procedures of any equipment used
- affect of process stages on outcomes
- purpose of personal protective clothing and equipment
- personal hygiene requirements of operator
- Occupational health and safety (OHS) hazards and controls
- methods used to render equipment safe to sterilise
- equipment settings required for sterilisation
- regulatory requirements as they affect immediate responsibilities for sterilising
- types of waste generated by the sterilising process and related collection, treatment and disposal requirements
- environmental consequences of incorrect waste disposal procedures
- procedures and responsibility for reporting problems
- reporting and recording requirements and procedures
- sampling plan and procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • prepare environment according to aseptic workplace standards • conduct work in a manner that meets aseptic standards • use sterilising techniques • clean and sterilise equipment after use • maintain workplace documentation.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor, or senior operator
Equipment	<p>Equipment to be sterilised may include:</p> <ul style="list-style-type: none"> • volumetric and general glassware, microbiological equipment and laminar flow cabinet <p>Equipment used for sterilising may include:</p> <ul style="list-style-type: none"> • autoclave, microwave, ultraviolet (UV) cabinet and pressure cooker
Aseptic transfers	<p>Aseptic transfers may involve:</p> <ul style="list-style-type: none"> • the use of microbiological inoculation and transfer tools, such as loops, spreaders, swabs, pipettes, and flasks, tubes, sample vessels, bottles and wine casks

RANGE STATEMENT	
	(bladders)
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • solid and/or liquid media • live cultures in broths • propagation media • plates • deeps • slopes • ferments • chemical disinfecting or sterilising agents
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards, and pre-start requirements are met and that equipment is operational
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • gases • power • water • steam
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB3001A Use computer technology for laboratory applications

Modification History

This unit supersedes and is equivalent to FDFLABCOMA Use computer technology for laboratory operations.

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required for information and data storage, retrieval, analysis and reporting.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for using technology to perform laboratory work operations.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2008A	Analyse laboratory data* <i>FDFLAB2006A Record laboratory data</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Access equipment	1.1 Appropriate equipment required for information management is identified 1.2 Software is accessed from a personal computer or network terminal
2. Use application software	2.1 Laboratory information is entered into the computing system according to specified procedure 2.2 Searches for information output are conducted 2.3 Application features are used for calculations 2.4 Data sets and databases are constructed for numerical and graphical analysis 2.5 Data is obtained from diverse applications and integrated
3. Analyse data and document reports	3.1 Data is analysed using software package applications 3.2 Correct options are selected for constructing data reports 3.3 Results of data analysis are documented using appropriate document format and design 3.4 Data sources are referenced according to the style requirements of the workplace 3.5 Report is printed using software package functions
4. Complete software applications	4.1 Data is backed up and/or archived according to workplace procedures 4.2 Hard copies are filed and/or distributed according to workplace procedures 4.3 Anti-virus software is used as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- select the appropriate software package for the data processing operation
- use routine commands and instruction of the software package to complete the required operation
- use software package to analyse data. This may involve simple statistical and/or graphical analysis of quality assurance data
- present accurate results in the required format. This may include:
 - graphs
 - tables
 - graphics
 - spreadsheets
- identify deviations in performance and take appropriate action
- back up electronic files
- follow procedures to troubleshoot basic software problems
- use virus scanning software
- maintain the confidentiality of data according to workplace procedures
- generate reports in a timely manner in the required format
- secure records as required
- analyse simple statistical and/or graphical data according to enterprise procedures
- interpret hardware and/or software technical manuals according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- how the software package can be applied to wine laboratory information management
- functions and commands associated with the software package
- relationship between the package instructions and the data processing performed
- types of database models available
- relationship between procedures for data input and file storage

- file and record maintenance
- basic statistical concepts where relevant
- methods of comparing quantitative data where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • prepare equipment and software for operation • use software for laboratory applications • obtain, analyse and record data • maintain laboratory data according to workplace system requirements.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where

EVIDENCE GUIDE

	possible, over a number of assessment activities.
--	---

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements

Workplace information

Workplace information may include:

- laboratory data
- Standard Operating Procedures (SOPs)
- specifications
- standards
- certificates of compliance
- quality assurance records
- scientific articles and publications
- reference texts
- product information and purchase details (e.g. supplier catalogues and handbooks)
- calibration records
- maintenance and service records
- production schedules
- instructions
- work notes
- Material Safety Data Sheets (MSDS)
- manufacturer instructions (hardware and software documentation)
- verbal direction from laboratory manager, supervisor, or senior operator

Software packages

Software packages may include:

- word processing

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spreadsheets • databases • graphical and statistical analysis • Laboratory Information Management Systems (LIMS)
Functions	<p>Functions may include:</p> <ul style="list-style-type: none"> • Formatting • Integrating • importing graphics • charts and tables
Laboratory software	<p>Laboratory software may be applied to:</p> <ul style="list-style-type: none"> • sample login, tracking and scheduling • results entry • quality assurance or quality control data reporting • export and invoicing • tracking labels • worksheets • status and backlog reports • control limit charting • barcoding
Data	<p>Laboratory data may include:</p> <ul style="list-style-type: none"> • the results of inspections, tests, quality or safety audits and trials • product or process non-compliance • quarantine procedures • materials compliance validation • calibration or maintenance schedules • stocktakes • instrument performance characteristics • wine shows
Information and reference sources	<p>Information and reference sources may be accessed manually or electronically, and may include:</p> <ul style="list-style-type: none"> • standards • specifications • analytical tolerances • supply details • stock control records • production statistics

RANGE STATEMENT	
	<ul style="list-style-type: none"> • automatic data transfer, including barcode systems • internet, intranet and email
Reports	<p>Reports will involve the use of computer hardware and software tools to analyse laboratory data and interpret the information to produce reports for use by the laboratory and its internal or external customers. These may include:</p> <ul style="list-style-type: none"> • winemakers • production team members • external clients <p>Reports may be distributed in:</p> <ul style="list-style-type: none"> • hard copy or electronic format

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB3002A Perform non-routine or specialised tests

Modification History

This unit supersedes and is equivalent to FDFLABNRTA Perform non-routine or specialised tests.

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to perform tests that are atypical of routine process control procedures.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for applying laboratory principles to perform non-routine or specialised tests.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2006A	Record laboratory data, and
	FDFLAB2001A	Perform basic analytical tests*, or <i>FDFLAB2011A Use basic laboratory equipment</i>
	FDFLAB2002A	Perform basic microbiological tests*, or <i>FDFLAB2012 Maintain aseptic environment</i> <i>FDFLAB2011A Use basic laboratory equipment</i>
	FDFLAB2009A	Perform packaging quality control procedures*

		<i>FDFLAB2011A Use basic laboratory equipment</i>
--	--	---

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for testing	<ul style="list-style-type: none">1.1 Samples are registered and prepared for testing1.2 Materials are prepared to meet requirements1.3 Services are confirmed as available and ready for use1.4 Equipment is selected, prepared and checked to confirm readiness for use1.5 Defects in samples, test materials and equipment are identified, rectified and/or reported
2. Perform testing	<ul style="list-style-type: none">2.1 Test method is carried out according to procedure2.2 Equipment and materials are used according to workplace procedures2.3 Results are read and interpreted2.4 Method or procedure is validated2.5 Out-of-standard results are identified and appropriate action taken
3. Complete testing	<ul style="list-style-type: none">3.1 Waste generated by the testing is monitored and cleared according to workplace procedures3.2 Equipment is prepared for cleaning3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	<ul style="list-style-type: none">4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access and interpret information to identify testing requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas. This may include:
 - laboratory
 - winemaking
 - production
 - marketing
 - supply
- confirm supply of necessary materials, equipment and services
- prepare samples for testing
- prepare materials as required
- confirm equipment status and condition. This may include:
 - confirmation that test equipment is operating accurately
 - recognising and rejecting contaminated or faulty glassware and equipment
 - safety checks
 - replacing consumables
 - instrument setting and calibration
- operate equipment according to test procedure
- carry out tests
- read and interpret results
- record results and complete workplace information
- monitor the process and test equipment to identify out-of-standard results or non-compliance
- take corrective action in response to out-of-standards results, anomalies or non-compliance
- report and/or record corrective action according to workplace procedures
- follow procedures to repeat or confirm results
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- take samples according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures

- carry out routine maintenance according to enterprise procedures
- identify, rectify or report environmental non-compliance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- principles of the test method
- purpose of the test
- relevant standards, specifications and basic legislative requirements (e.g. quality, health, safety, labelling and equipment) and their implications
- procedures and operating parameters
- affect of process stages on results
- start-up and set-up procedures as required
- services required
- common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required
- how to read and interpret results
- recording requirements and procedures
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- procedures and responsibility for reporting problems
- cleaning and sanitising requirements of equipment and work area
- recording requirements and procedures
- sampling plan and procedures where relevant
- cleaning and sanitising procedures where relevant
- routine maintenance procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare equipment and materials for conducting tests • conduct non-routine or specialised tests according to workplace requirements • interpret results and identify out-of-standard results • conduct housekeeping and dispose of waste according to workplace standards • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Tests	<p>Tests will vary but may involve assisting the Laboratory Manager, Microbiologist, Production Manager, Winemaker or other senior officer with:</p> <ul style="list-style-type: none"> • trial work • testing new materials or product • investigating complaints • improving laboratory efficiency • adjusting methods to conform to regulatory requirements (e.g. food safety and Hazard Analysis Critical Control Points (HACCP)) • meeting client expectations

RANGE STATEMENT	
	<ul style="list-style-type: none"> conducting enterprise specific procedures
Procedures	<p>Typical procedures may include:</p> <ul style="list-style-type: none"> titrimetric and qualitative tests spectrometric methods, such as ultra violet/visible (UV/Vis), infrared (IR), near infrared (NIR), and atomic absorption spectrophotometry (AA) chromatographic methods, such as thin layer, paper, gas chromatography (GC), high performance (pressure) liquid chromatography (HPLC) electrochemical methods, such as ion-selective electrodes microbiological methods, such as isolating and maintaining culture collections, yeast and bacteria propagation and maintenance, and rapid yeast detection (epi-fluorescence) physical and destructive tests
Equipment	Equipment may vary and should include that listed in test procedure or directions for conducting analyses
Materials	Materials may vary and should include those listed in test procedure or directions for conducting analyses
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that hygiene and sanitation standards, safety standards and pre-start requirements are met, and that equipment is operational checking the operation and/or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> water gases power
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFLAB3003A Perform routine troubleshooting procedures

Modification History

This unit supersedes and is equivalent to FDFLABTSHA Perform routine troubleshooting procedures.

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to troubleshoot routine testing equipment, procedures or processes to identify problems and take corrective action.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for applying laboratory principles to identify and rectify testing problems.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2006A	Record laboratory data, and
	FDFLAB2001A	Perform basic analytical tests*, or <i>FDFLAB2011A Use basic laboratory equipment</i>
	FDFLAB2002A	Perform basic microbiological tests*, or <i>FDFLAB2012 Maintain aseptic environment</i> <i>FDFLAB2011A Use basic laboratory equipment</i>

	FDFLAB2009A	Perform packaging quality control procedures* <i>FDFLAB2011A Use basic laboratory equipment</i>
--	-------------	--

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify out-of-standard test equipment and/or process performance	1.1 Equipment and/or process is inspected to confirm it is operating according to specification 1.2 Equipment and/or process outputs are inspected to confirm they are consistent with product and/or process specifications 1.3 Signs of equipment wear and potential malfunction are recognised 1.4 Parameters for out-of-standard performance are recognised and/or identified
2. Identify causes of out-of-standard performance	2.1 Out-of-standard performance is investigated using standard troubleshooting steps according to workplace procedures 2.2 Service and/or calibration records are reviewed 2.3 Procedure is reviewed to ensure correct materials, equipment and protocol were followed 2.4 Appropriate validation or performance checks are conducted as required 2.5 Equipment and/or process variables are analysed and a list of possible causes prepared 2.6 Most probable causes are identified using appropriate elimination techniques
3. Initiate corrective action	3.1 Corrective action is trialled based on outcome of investigation 3.2 Equipment and/or process is monitored to ensure outputs are within specification 3.3 Trial results are reviewed and corrective action validated
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access, interpret and apply workplace information to identify equipment and process specifications and operating parameters
- liaise with other work areas (e.g. cellar, production line, maintenance and winemaker)
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, materials and services
- recognise and identify anomalous equipment and/or process outcomes
- identify causes of out-of-standard performance
- take corrective action to rectify out-of-standard performance. This may involve adjusting, rectifying or modifying test equipment or process, which may include:
 - calibrating or standardising
 - checking reagents
 - dismantling equipment
 - replacing components
 - performing routine maintenance, cleaning or sanitising procedures
 - adjusting parameters
 - modifying procedures
 - manipulating data
- monitor results of corrective action
- verify success of corrective action
- report and/or record corrective action required
- sort, collect, treat, recycle or dispose of waste
- maintain workplace records
- maintain work area to meet housekeeping standards
- Clean and sanitise equipment according to enterprise procedures
- conduct routine preventive maintenance according to enterprise procedures
- take samples according to enterprise procedures.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of troubleshooting procedures
- principles and procedures relating to test equipment operation

- equipment and instrumentation components, purpose and operating parameters
- normal range of results for test procedures
- how to read, calculate and evaluate results
- relevant standards and specifications and basic legislative requirements (e.g. quality, health, safety, labelling and equipment) and their implications
- workplace policy and/or procedures with regard to:
 - reporting out-of-standard performance or non-compliance
 - calibration and service requirements of test equipment
 - troubleshooting protocol
 - problem-solving protocol
 - making changes to Standard Operating Procedures (SOPs)
- services used
- significance and method of monitoring control points within a process
- causes of variation or inaccuracies and corrective action required
- Occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- waste handling requirements and procedures
- cleaning and sanitising requirements where relevant
- routine maintenance requirements of equipment where relevant
- sampling techniques where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify and address non-conformances or problems with laboratory equipment • identify and address non-conformances or problems with laboratory processes • identify causes and address problem cause • complete workplace documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of

EVIDENCE GUIDE	
	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • SOPs • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor, or senior operator
Troubleshooting	<p>Troubleshooting will involve:</p> <ul style="list-style-type: none"> • the use of technical knowledge and skills to investigate out-of-standard performance of routine test equipment, analysis results or processes
Test equipment	<p>Test equipment should include that which is required to perform routine analysis in the laboratory, production line, cellar or plant. This may include equipment used for:</p> <ul style="list-style-type: none"> • chemical, microbiological and physical tests on product, materials production processes, or environmental management

RANGE STATEMENT	
Materials	Materials may vary and should include those listed in the enterprise SOPs
Workplace records	Workplace records may include: <ul style="list-style-type: none"> • calibration logs • non-conformance reports • corrective action reports • service records • maintenance records • trial results and reports
Services	Services may include: <ul style="list-style-type: none"> • power • water • gases
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB3004A Check and maintain readiness of wine testing equipment

Modification History

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to perform set-up and pre-use checks on wine testing equipment and assist with maintenance.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency has been developed for the laboratory stream of the wine sector. It applies to equipment used in laboratories, cellar and field testing for the wine industry. Maintenance tasks include identification of faults, minor repairs and maintenance and notification of requirements for major repairs, according to enterprise procedures.</p> <p>All operations must comply with relevant standards, appropriate procedures and/or enterprise requirements.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
	FDFLAB2006A Record laboratory data, and
	FDFLAB2001A Perform basic analytical tests*, or <i>FDFLAB2011A Use basic laboratory equipment</i>

	FDFLAB2002A	Perform basic microbiological tests*, or <i>FDFLAB2012 Maintain aseptic environment</i> <i>FDFLAB2011A Use basic laboratory equipment</i>
	FDFLAB2009A	Perform packaging quality control procedures* <i>FDFLAB2011A Use basic laboratory equipment</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Perform pre-use checks of wine testing equipment	<ul style="list-style-type: none">1.1 Wine testing equipment pre-use checks are performed in accordance with enterprise procedures1.2 Safety checks are performed in accordance with relevant enterprise and instrumental procedures1.3 Faulty or unsafe components and equipment are identified and reported to appropriate personnel1.4 Instrument log books are completed to enterprise requirements
2. Perform set-up checks	<ul style="list-style-type: none">2.1 Equipment is started up according to operating procedures2.2 Equipment performance is checked for accuracy according to operating procedures2.3 Results of pre-start checks are recorded according to operating procedures2.4 Out-of-specification equipment is quarantined
3. Assist with equipment maintenance	<ul style="list-style-type: none">3.1 All equipment work areas are cleaned during and after equipment use3.2 Work is conducted in accordance with workplace environmental guidelines3.3 Basic maintenance is performed in accordance with enterprise procedures3.4 Equipment is cleaned and stored according to enterprise and/or manufacturer specifications or procedures3.5 Damaged or worn equipment is identified and replaced, repaired or disposed of as appropriate
4. Maintain records	<ul style="list-style-type: none">4.1 Equipment logs are maintained in accordance with enterprise procedures4.2 Information on unsafe or faulty equipment is recorded and reported as per enterprise procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access and interpret technical information
- select, fit and use appropriate personal protective clothing and/or equipment
- confirm availability of necessary materials, equipment and services
- confirm equipment status and condition. This may include:
 - confirm that test equipment is operating accurately
 - recognise and rejecting contaminated or faulty glassware and equipment
 - perform safety checks
 - replace consumables
 - perform instrument setting
- monitor test equipment to identify out-of-standard results or non-compliance
- take corrective action in response to out-of-standard results, anomalies or non-compliance
- report and/or record corrective action according to workplace procedures
- sort, collect, treat, recycle or dispose of waste
- shut down equipment
- maintain work area to meet housekeeping standards
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- operational principles and methods for equipment use
- basic sources of error in equipment operation and their control
- role and importance of correct equipment checking and testing
- basic equipment maintenance procedures
- correct occupational health and safety (OHS) procedures
- enterprise communication and reporting procedures
- function of key components of the instrument
- effects of environmental conditions and controls on testing
- procedures and responsibility for reporting problems

- recording requirements and procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • perform set-up pre-use checks and shutdown procedures • check basic equipment using standard procedures • obtain readings of the required accuracy and precision • recognise non-standard behaviour of instruments • assist with maintaining equipment in working order • follow all relevant OHS requirements • follow enterprise recording and reporting procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • standard laboratory equipped with appropriate spectrometers • standard laboratory equipped with appropriate equipment and reference manuals • SOPs, calibration standards and procedures, maintenance procedures. • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from laboratory manager, supervisor or senior operator
Equipment	<p>Equipment may vary and should include that listed in test procedure or directions for conducting analyses. Typical equipment may include:</p> <ul style="list-style-type: none"> • balances, pipettes, burettes and volumetric glassware • optical microscopes • melting point apparatus, viscometers and hardness testing equipment • conductivity meters and pH meters • noise meters and blasting meters • disintegration apparatus, thermometers, incubators and water baths

RANGE STATEMENT	
	<ul style="list-style-type: none"> • colorimeters/spectrometers and polarimeters • compaction rammers and soil classification equipment • instrument chart recorders, penetrometers, force measuring equipment and tensiometers • mixing and separating equipment, such as centrifuges, riffles and splitters, and mixers • hydrometers (e.g. baumé, specific gravity and alcoholometers) • turbidity meters • refractometers • calipers
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met, and that equipment is operational • checking the operation of measuring instrumentation

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFLAB3005A Perform instrumental tests or procedures on wine samples

Modification History

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to prepare wine samples, conduct tests and record data.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency has been developed for the laboratory stream of the wine sector. It describes the work conducted by laboratory technicians who use basic instrumental tests or procedures to evaluate wines.</p> <p>All operations must comply with relevant standards, appropriate procedures and/or enterprise requirements.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2006A	Record laboratory data, and
	FDFLAB2001A	Perform basic analytical tests*, or <i>FDFLAB2011A Use basic laboratory equipment</i>
	FDFLAB2002A	Perform basic microbiological tests*, or <i>FDFLAB2012 Maintain aseptic environment</i>

		<i>FDFLAB2011A Use basic laboratory equipment</i>
	FDFLAB2009A	Perform packaging quality control procedures* <i>FDFLAB2011A Use basic laboratory equipment</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare wine sample	<p>1.1 Wine to be tested is identified and appropriate standard method and safety requirements selected</p> <p>1.2 Personal protective equipment and safety procedures are applied as specified for test method</p> <p>1.3 Wine sample description is recorded, compared with specification and discrepancies reported</p> <p>1.4 Wine sample is prepared in accordance with testing requirements</p>
2. Test wine sample	<p>2.1 Wine sample is measured</p> <p>2.2 Equipment and materials are set up and used according to workplace procedures</p> <p>2.3 Calibration status of equipment is checked</p> <p>2.4 Test method is carried out according to procedure</p> <p>2.5 Results are read and interpreted</p> <p>2.6 Out-of-standard results are identified and appropriate action taken</p> <p>2.7 Equipment is shut down in accordance with operating procedures</p>
3. Process data	<p>3.1 Test data is recorded noting atypical observations</p> <p>3.2 Calculated quantities are checked to ensure they are consistent with estimations</p> <p>3.3 Results are recorded and reported in accordance with enterprise procedures</p> <p>3.4 Trends in data and/or results are interpreted and out-of-specification or atypical results promptly reported to appropriate personnel</p> <p>3.5 Basic procedure or equipment problems which have led to atypical data or results are identified and addressed</p>
4. Maintain a safe work environment	<p>4.1 Established work practices are applied to ensure personal safety and that of other laboratory personnel</p> <p>4.2 Generation of waste is minimised and environmental standards applied including the safe disposal of laboratory wastes</p> <p>4.3 Equipment and reagents are cleaned, cared for and stored as required</p>
5. Maintain laboratory records	<p>5.1 Approved data is recorded into enterprise system</p> <p>5.2 Confidentiality of enterprise information and laboratory data is maintained</p> <p>5.3 Security of enterprise information and laboratory data is ensured</p> <p>5.4 Equipment logs are maintained in accordance with enterprise procedures</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access and interpret information to identify testing requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas. This may include:
 - laboratory
 - winemaking
 - production
 - marketing
 - supply
- confirm supply of necessary materials, equipment and services
- prepare samples for testing
- prepare materials as required
- confirm equipment status and condition. This may include:
 - confirm that test equipment is operating accurately
 - recognise and reject contaminated or faulty glassware and equipment
 - perform safety checks
 - replace consumables
 - perform instrument setting and calibration
- operate equipment according to test procedure
- carry out tests
- read and interpret results
- record results and complete workplace information
- monitor the process and test equipment to identify out-of-standard results or non-compliance
- take corrective action in response to out-of-standards results, anomalies or non-compliance
- report and/or record corrective action according to workplace procedures
- follow procedures to repeat or confirm results
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- maintain work area to meet housekeeping standards
- prepare equipment for cleaning. This may include dismantling equipment or rinsing in preparation for sanitation
- take samples according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures

- carry out routine maintenance according to enterprise procedures
- identify, rectify or report environmental non-compliance according to enterprise procedures.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- principles of the test method
- purpose of the test
- relevant standards, specifications and basic legislative requirements (e.g. quality, health, safety, labelling and equipment) and their implications
- principles and concepts related to instrumentation operation and testing
- modes of separation and the concepts related to instrument operation and testing, where relevant
- function of key components of the instrument
- effects of modifying instrumental variables on output
- procedure for optimising equipment through changing operation parameters
- sample preparation procedures
- equipment and testing method troubleshooting procedures
- use of instrumentation for qualitative and/or quantitative analysis
- use of calibration charts
- calculation steps to give results in appropriate units
- effect of process stages on results
- start-up and set-up procedures as required
- services required
- common causes and knock-on effects of inaccuracies or contamination, and preventive or corrective action required
- how to read and interpret results
- recording requirements and procedures
- occupational health and safety (OHS) hazards and controls
- lock-out and tag-out procedures as required
- procedures and responsibility for reporting problems
- shutdown sequence as required
- environmental issues and controls
- procedures and responsibility for reporting problems
- cleaning and sanitising requirements of equipment and work area
- recording requirements and procedures.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • start up, set up and shut down equipment • check calibration status of equipment and calibrate if required • prepare and test samples using procedures appropriate to the nature of sample • optimise and use equipment and spectrometers to enterprise standards • prepare calibration graphs and calculate results in appropriate units • apply basic theoretical knowledge to interpret data and make relevant conclusions • identify atypical results as out of normal range of an artefact • trace and source the cause of an artefact • communicate problems to either supervisor or outside service technician • record and communicates results according to enterprise procedures • maintain security, integrity, traceability and identity of samples, sub-samples and documentation • follow OHS procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • standard laboratory equipped with appropriate spectrometers

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> laboratory reagents and equipment standard operating procedures and testing methods documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules instructions work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from laboratory manager, supervisor or senior operator
Tests	<p>Tests will vary but may involve:</p> <ul style="list-style-type: none"> testing new materials or products

RANGE STATEMENT

- investigating complaints
- improving laboratory efficiency
- adjusting methods to conform to regulatory requirements (e.g. food safety and Hazard Analysis Critical Control Points (HACCP))
- meeting client expectations
- controlling starting materials
- in-process materials and finished products
- basic troubleshooting of enterprise processes
- environmental monitoring
- discrete pathology tests

Tests may be:

- titrimetric and qualitative tests
- spectrometric, for example:
 - ultraviolet/visible (UV/Vis), fluorimetric, infrared (IR), flame atomic absorption spectrometry (AA)
- chromatographic, for example:
 - column and thin layer analytical and preparative chromatography
 - paper, gas, liquid chromatography and high performance (pressure) liquid chromatography (HPLC)
 - gel filtration chromatography (purification of proteins)
 - affinity chromatography (purification of immunoglobulins)
- electrochemical, for example:
 - pH, ion-selective electrodes and polarography
- electrophoretic, for example:
 - DNA patterns and determination of protein purity
- physical and destructive tests
- microbiological methods, such as isolating and maintaining culture collections, yeast and bacteria propagation and maintenance, and rapid yeast detection (epi-fluorescence)

The tint and depth of colour in wines can be measured in terms of the amount of light in the visible range that is absorbed by a wine sample using a UV/Vis spectrophotometer. Accuracy of wine colour analysis is important as an incorrect result may result in over-fining

RANGE STATEMENT	
	of wines or the preparation of blends that do not meet winemaking specifications.
Equipment	Equipment may vary and should include that listed in test procedure or directions for conducting analyses
Materials	Materials may vary and should include those listed in test procedure or directions for conducting analyses
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met, and that equipment is operational • checking the operation and/or calibration of measuring instrumentation
Potential problems	<p>Potential problems may occur if the technician fails to:</p> <ul style="list-style-type: none"> • set the wavelength correctly • use the correct size/type of cuvette • place the cuvettes correctly in the spectrophotometer • rezero the spectrophotometer when changing from one wavelength to another, or when changing to different cell sizes

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFOHS1001A Work safely

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit of competency specifies the outcomes required to work within occupational health and safety (OHS) requirements across a range of industry contexts.</p> <p>It requires the ability to demonstrate personal awareness of OHS legislative requirements and basic principles of risk management and prevention of injury and illness at work.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit supports the attainment of the basic OHS knowledge required prior to undertaking designated work tasks.</p> <p>The unit is intended to address workplace requirements of the work experience student or new workplace entrants during an initial familiarisation period.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify OHS legislative requirements	1.1. Applicable OHS legislative requirements relevant to own work, role and responsibilities are identified 1.2. Duty of care requirements are identified and explained 1.3. Own responsibilities to comply with safe working practices are identified and explained
2. Identify workplace hazards and control measures	2.1. Basic principles of risk management are identified 2.2. Common workplace hazards are identified and discussed 2.3. Measures for controlling risks are identified 2.4. Requirements for the selection and use of relevant personal protective equipment are identified and explained 2.5. Safety signs and symbols are identified and explained 2.6. Procedures for reporting hazards and risks are identified and discussed
3. Identify OHS communication and reporting	3.1. Participative arrangements for OHS, including communication processes, information and documentation are identified and discussed 3.2. Designated OHS roles and relevant authorities for raising OHS concerns, including concerns relating to the right to refuse unsafe work are identified and explained
4. Identify OHS incident and emergency response procedures	4.1. General procedures for responding to incidents, injuries and emergencies are identified and explained 4.2. Procedures for first aid are identified and discussed 4.3. Fire safety equipment and emergency evacuation are identified and discussed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- apply comprehension skills to:
 - explain the basic OHS legislative requirements which will be applicable to own work
 - explain the meaning of safety signs and symbols
 - identify workplace hazards
 - discuss the basic principles of risk management
 - report workplace incidents, injuries
- apply communication/interpersonal skills to:
 - clarify OHS legislative requirements
 - verbally report workplace hazards and risks
 - ask effective questions
 - relay information to others
 - discuss OHS issues and information
-

Required knowledge

Essential knowledge:

- applicable commonwealth, state or territory OHS legislation, regulations, standards, codes of practice and industry standards/guidance notes relevant to own work, role and responsibilities
- basic principles of risk management and assessment relating to work role
- common workplace hazards
- common workplace safety signage and their meanings
- general workplace emergency response and evacuation procedures
- work activities which require licences, tickets or certificates of competency
- general first aid response requirements
- general procedures for raising OHS issues
- general procedures for reporting OHS hazards, accidents, incidents, emergencies, injuries, near misses and dangerous occurrences
- general procedures for responding to hazards, incidents and injuries
- general workers compensation and injury management requirements
- OHS hierarchy of controls
- OHS responsibilities and rights of duty holders (including persons in control of work/projects, employers and self employed persons, supervisors, designers,

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <p>manufacturers and suppliers, workers and inspectors)</p> <ul style="list-style-type: none">• own responsibilities to comply with safe working practices (relating to identification of hazards, preventing bullying or harassment, use of amenities, smoking, use of drugs and alcohol and housekeeping)• role of OHS committees and representatives• types of common personal protective equipment and fire safety equipment• types of OHS information and documentation |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence must confirm personal awareness of the following:</p> <ul style="list-style-type: none"> • applicable OHS legislative and safety requirements for work role, including duty of care • the range of common workplace hazards and procedures for the assessment of risk and application of the hierarchy of control • OHS communication processes, information and documentation, including the role of OHS committees and representatives, the meaning of common safety signs and symbols, and procedures for reporting hazards, incidents and injuries • general procedures for responding to incidents and emergencies, including evacuation, first aid, fire safety equipment and personal protective equipment • following safe work procedures to perform tasks.
<p>Context of and specific resources for assessment</p>	<p>Resources must be available to support the assessment, including participant materials and other information or equipment related to the skills and knowledge covered.</p> <p>It is recommended that the assessment tool designed specifically to support this unit of competency would provide consistency in assessment outcomes.</p> <p>A range of other assessment tools and resources should be used to suit the learning preferences or special learning needs of individual participants.</p>
<p>Method of assessment</p>	<p>Assessment methods must satisfy the endorsed Assessment Guidelines of this Training Package.</p> <p>Assessment methods must confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge.</p>

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

OHS legislative requirements

OHS legislative requirements are to be in accordance with applicable OHS legislation. Requirements should relate to:

- OHS and welfare Acts and regulations
- National Code of Practice for Induction Training for Construction Work
- safety codes of practice
- national safety standards
- OHS standards and guidelines
- licences, tickets or certificates of competency
- duty of care
- Australian standards
- health and safety representatives, committees and supervisors

Duty of care requirements

Duty of care requirements relate to:

- the legal responsibility under 'duty of care' to do everything reasonably practicable to protect others from harm
- relevant state and territory OHS requirements and may include employers and self-employed persons, persons in control of the work site, construction supervisors, designers, manufacturers and suppliers, construction workers, sub-contractors and inspectors
- own responsibilities to comply with safe working practices, including activities which require licences, tickets or certificates of competency

Safe working practices

Safe working practices may include:

- smoking in designated areas
- housekeeping to ensure a clean, tidy and therefore safer work area
- general requirements for use of personal

RANGE STATEMENT	
	<p>protective equipment and clothing</p> <ul style="list-style-type: none"> • general requirements for safe use of plant and equipment • storage and removal of debris • drugs and alcohol at work • preventing bullying and harassment • access to site amenities such as drinking water and toilets
Risks	<p>Risks relate to:</p> <ul style="list-style-type: none"> • the likelihood of a hazard causing injury or harm
Principles of risk management	<p>Principles of risk management include:</p> <ul style="list-style-type: none"> • identify hazards • assess the risks involved • consult and report ensuring the involvement of relevant workers • control the hazard • review to identify change or improvement
Hazards	<p>Hazards relate to:</p> <ul style="list-style-type: none"> • a source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these
Common hazards	<p>Common hazards may include:</p> <ul style="list-style-type: none"> • manual handling • hazardous substances and dangerous goods • noise • plant and equipment including access to moving parts • UV radiation • electrical safety • traffic and mobile plant • working at heights • falling objects • excavations (including trenches) • confined spaces • unplanned collapse • hot and cold working environments • HIV and other infectious diseases

RANGE STATEMENT	
Measures for controlling risk eliminate or minimise hazards in accordance with the hierarchy of control	<p>Measures for controlling risk eliminate or minimise hazards in accordance with the hierarchy of control include:</p> <ul style="list-style-type: none"> • elimination (e.g. controlling the hazard at the source) • substitution (e.g. replacing one substance or activity at the source) • engineering control (e.g. installing guards on machinery) • administration control (e.g. policies and procedures for safe work practices) • personal protective equipment (e.g. respirators and ear plugs)
OHS communication processes	<p>OHS communication processes may include:</p> <ul style="list-style-type: none"> • processes for raising OHS issues • OHS participative arrangements • OHS meetings • toolbox talks • discussions with OHS representatives • workplace consultation relating to OHS issues and changes • OHS notices, newsletters, bulletins and correspondence
OHS information and documentation	<p>OHS information and documentation may include:</p> <ul style="list-style-type: none"> • workplace documentation and plans • safe work method statements • material safety data sheets (MSDS) • job safety analyses • accident and incident reports • reports of near misses and dangerous occurrences • risk assessments • labels • safety meeting minutes • proformas for reporting hazards, incidents and injuries • Acts • regulations • codes of practice

RANGE STATEMENT	
	<ul style="list-style-type: none"> • guidance notes • evacuation plans • emergency information contact • Australian standards • workplace safety inspection reports
Designated OHS personnel	<p>Designated OHS personnel may include:</p> <ul style="list-style-type: none"> • supervisors • OHS representatives • OHS committee members • first aid officers • OHS managers
Safety signs and symbols	<p>Safety signs and symbols may include:</p> <ul style="list-style-type: none"> • regulatory signs (e.g. prohibition, mandatory and limitation or restriction) • hazard signs (danger and warning) • emergency information signs (e.g. exits, equipment, first aid) • fire signs (e.g. location of fire alarms and fire fighting equipment) • safety tags and lockout (e.g. danger tags, out of service tags) • caution signs
Relevant authorities	<p>Relevant authorities may include:</p> <ul style="list-style-type: none"> • emergency services (e.g. police, ambulance, fire brigade, emergency rescue) • OHS regulatory authority • supervisor • manager
Incidents	<p>Incidents may include:</p> <ul style="list-style-type: none"> • accidents resulting in personal injury or damage to property • near misses or dangerous occurrences which do not cause injury but may pose an immediate and significant risk to persons or property, and need to be reported so that action can be taken to prevent recurrence
General procedures for responding to incidents and	<p>General procedures for responding to incidents and emergencies may include:</p>

RANGE STATEMENT	
emergencies	<ul style="list-style-type: none"> • basic emergency response (keep calm, raise alarm, obtain help) • evacuation • referring to workplace emergency plans and documentation • notification of designated OHS personnel and authorities • notification of emergency services (e.g. when and how)
Emergencies	<p>Emergencies may include:</p> <ul style="list-style-type: none"> • fire • toxic and/or flammable vapours emission • vehicle/mobile plant accident • structural collapse • chemical spill • injury to personnel • explosions • gas leak
Personal protective equipment	<p>Personal protective equipment may include:</p> <ul style="list-style-type: none"> • protective, well fitting clothing • arm guards • aprons • high visibility retro reflective vests • safety footwear • hard hat • eye protection • hearing protection • gloves • respiratory protection • UV protective clothing and sunscreen
Fire safety equipment	<p>Fire safety equipment may include:</p> <ul style="list-style-type: none"> • fire fighting equipment • fire blankets • breathing apparatus

Unit Sector(s)

Unit sector	Occupational health and safety
--------------------	--------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOHS2001A Participate in OHS processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency specifies the workplace performance required for an entry level employee to participate in occupational health and safety (OHS) processes in the workplace, in order to ensure their own health and safety at work, as well as that of those in the workplace who may be affected by their actions.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is intended for application during induction of new entrants to the workplace and where worker has basic operational knowledge and skills for a limited range of tasks and problems. IT includes apprentices, trainees and casual workers.</p> <p>Application of this unit should be contextualised to reflect any specific workplace risks, hazards and associated safety practices.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare to work safely	1.1. Hazards in the work area are identified and action taken to control risks for those hazards the employee can correct 1.2. Hazards and inadequacies in control measures the employee cannot correct are reported in accordance with organisation procedures 1.3. Pre-start checks are carried out as required according to work procedures
2. Conduct work safely	2.1. Personal protective equipment is used correctly and maintained when required 2.2. Work procedures and workplace instructions for ensuring safety are followed when planning and conducting work 2.3. Incidents and injuries to are reported to designated personnel 2.4. OHS housekeeping is undertaken in work area
3. Participate in OHS consultative activities	3.1. Knowledge of roles and responsibilities of OHS representatives and OHS committees is applied 3.2. Constructive contribution to workplace meetings, workplace inspections or other OHS consultative activities is made 3.3. OHS issues are raised with designated personnel according to organisation procedures 3.4. Input to improve workplace OHS systems and processes is provided to eliminate hazards or reduce risk according to organisation procedures,
4. Follow emergency response procedures	4.1. Emergency situations are identified and reported 4.2. Organisation procedures for responding to emergencies are followed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- follow clear, logical verbal or clear, logical Plain English written instructions
- interpret selected pictorial/graphical and written signs/instructions
- clarify meaning with peers and supervisors
- give accurate verbal or written descriptions of incidents or hazards
- participate in OHS activities, including inspections, meetings and risk assessments

Required knowledge

Essential knowledge:

- applicable commonwealth, state or territory OHS legislation, regulations, standards, codes of practice and industry standards/guidance notes relevant to own work, role and responsibilities
- safety signs and their meanings, including signs for:
 - personal protective equipment
 - emergency equipment
 - dangerous goods class signs
 - specific hazards, such as sharps and radiation
- legal rights and responsibilities of the workplace parties
- the difference between hazard and risk
- nature of common workplace hazards, such as chemicals, bodily fluids, sharps, noise, manual handling, work postures, underfoot hazards and moving parts of machinery
- standard emergency signals, alarms and required responses
- the elements within the hierarchy of control
- safety measures related to common workplace hazards
- sources of OHS information in the workplace
- the roles and responsibilities of employees, supervisors and managers in the workplace
- roles and responsibilities of OHS representatives, OHS committees and employers
- workplace specific information, including:
 - hazards of the particular work environment
 - potential emergencies relevant to the workplace
 - designated person for raising OHS issues
 - organisation and work procedures particularly those related to performance of own work, specific hazards and risk control, reporting of hazards, incidents and

REQUIRED SKILLS AND KNOWLEDGE

injuries, consultation, use of personal protective equipment and emergency response

- | |
|---|
| <ul style="list-style-type: none">• potential emergency situations, alarms and signals, and required response |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<ul style="list-style-type: none"> • To demonstrate competence in this unit, a candidate must be able to provide evidence of the application of their knowledge of OHS: <ul style="list-style-type: none"> • in an actual or simulated workplace context involving relevant work processes • to their own health and safety within their work area • to that of others who may be affected by their actions • A candidate must also be able to provide evidence of participating in workplace OHS processes • Evidence gathered by an assessor to determine competence will include practical demonstration of competence, including: <ul style="list-style-type: none"> • workplace demonstration, simulation exercise, scenario or role play • indirect evidence from workplace supervisor reports and workplace documentation
<p>Context of and specific resources for assessment</p>	<p>Products that could be used as evidence include:</p> <ul style="list-style-type: none"> • verbal and written responses to verbal, pictorial, or physical scenarios • demonstrated action to scenarios, simulations, role plays • completed hazard or incident reports, completed workplace inspection checklists • reports from work group members, supervisor <p>Processes that could be used as evidence include:</p> <ul style="list-style-type: none"> • how contributions were made to consultative processes • how hazard inspections were carried out

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • how incident investigations reports were completed <p>Access and equity considerations:</p> <ul style="list-style-type: none"> • All assessment should be applied with respect to relevant work related access and equity issues • Competence should reflect an ability to work in a culturally diverse environment • Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on Aboriginal and/or Torres Strait Islander clients and communities.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Hazards	<p>Hazards are:</p> <ul style="list-style-type: none"> a source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these
Specific hazards	<p>Specific hazards may include, but are not limited to:</p> <ul style="list-style-type: none"> chemicals bodily fluids sharps noise manual handling work posture underfoot hazards moving parts of machinery cytotoxic medicines and waste
Other workplace hazards	<p>Other workplace hazards may include:</p> <ul style="list-style-type: none"> occupational violence stress fatigue bullying
Risks	<p>Risks, in relation to any hazard, means:</p> <ul style="list-style-type: none"> the probability and consequences of injury, illness or damage resulting from exposure to a hazard
Residual risk	<p>Residential risk is:</p> <ul style="list-style-type: none"> the risk which remains after controls have been implemented
Personal protective equipment	<p>Personal protective equipment refers to:</p> <ul style="list-style-type: none"> equipment worn by a person to provide

RANGE STATEMENT	
	<p>protection from hazards, by providing a physical barrier between the person and the hazard and may include:</p> <ul style="list-style-type: none"> • head protection • face and eye protection • respiratory protection • hearing protection • hand protection • clothing and footwear
Incidents	<p>Incidents include:</p> <ul style="list-style-type: none"> • any event that has caused, or has the potential for, injury, ill-health or damage
Designated personnel	<p>Designated personnel may include:</p> <ul style="list-style-type: none"> • team leaders • supervisors • OHS representatives • OHS committee members • managers • organisation OHS personnel • other persons designated by the organisation • employers in office based practice
OHS housekeeping	<p>OHS housekeeping includes:</p> <ul style="list-style-type: none"> • workplace and personal routines designed to improve health and safety, for example, cleaning up spills, keeping walkways, exits and traffic areas clear
Emergency situations	<p>Emergency situations may include:</p> <ul style="list-style-type: none"> • any abnormal or sudden event that requires immediate action, such as: <ul style="list-style-type: none"> • serious injury events • events requiring evacuation • fires and explosions • hazardous substance and chemical spills • explosion and bomb alerts • security emergencies, such as armed robberies, intruders and disturbed persons • internal emergencies, such as loss of power or water supply and structural collapse

RANGE STATEMENT	
	<ul style="list-style-type: none"> external emergencies and natural disasters, such as flood, storm and traffic accident impacting on the organisation

Unit Sector(s)

Unit sector	Occupational health and safety
--------------------	--------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOHS3001A Contribute to OHS processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit specifies the workplace performance required by an employee to contribute to occupational health and safety (OHS) processes where there is responsibility for own work outputs and possibly limited responsibility for the work output of others.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is intended for application by a skilled worker who contributes to team outcomes. The team may be a designated operational team or a larger work group.</p> <p>Workers are likely to perform work activities requiring a range of well developed skills where some discretion and judgment is required.</p> <p>Application of this unit should be contextualised to reflect any specific workplace risks, hazards and associated safety practices.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and conduct work safely	1.1. Work is planned in accordance with relevant provisions of OHS legislation, standards, codes of practice/compliance codes, guidance material and workplace safe working procedures 1.2. Hazards are identified as part of work planning and work process 1.3. Identified hazards are addressed prior to starting work using judgement within defined scope of responsibilities 1.4. Inadequacies in control measures are reported according to organisation procedures 1.5. Incidents and injuries are reported in line with organisation policies and procedures 1.6. OHS housekeeping is undertaken in work area
2. Support safe work practices in work area	2.1. Information on safe work practices and safety issues in the workplace is shared with members of the work group 2.2. The OHS practices of less experienced members of the workgroup are checked and support provided as required to ensure safe work practices are followed 2.3. Members of the workgroup are supported to accurately record incidents and complete associated workplace documentation according to organisation procedures
3. Contribute to OHS participative processes	3.1. OHS issues are raised in accordance with organisation procedures 3.2. Workplace meetings, workplace inspections or other consultative activities are contributed to in a constructive manner to improve safety 3.3. Knowledge of roles and responsibilities of OHS representatives and OHS committees is applied
4. Contribute to hazard identification, OHS risk assessment and risk control activities	4.1. Identified hazards and inadequacies in risk controls are reported 4.2. The workplace is checked for hazards using itemised checklists in accordance with work procedures 4.3. Risk assessments are contributed to 4.4. Input to development and implementation of control measures is provided, with reference to the hierarchy of control
5. Participate in the	5.1. Emergency signals and alarms are identified and

ELEMENT	PERFORMANCE CRITERIA
control of emergency situations	responded to appropriately 5.2. Initial action to control/confine emergency is taken according to organisation procedures, and taking account of the nature and scope of the emergency 5.3. Emergency response procedures are implemented within scope of training and competence

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- check the workplace for hazards and risks using an itemised checklist
- provide advice and feedback in a constructive and supportive manner
- communicate with others
- identify emergency situations
- work with others

Required knowledge

Knowledge of:

- applicable commonwealth, state or territory OHS legislation, regulations, standards, codes of practice and industry standards/guidance notes relevant to own work, role and responsibilities
- safety signs and their meanings, including signs for:
 - personal protective equipment
 - emergency equipment
 - dangerous goods class signs
 - specific hazards such as sharps, radiation
- the difference between hazard and risk
- sources of OHS information within the workplace with knowledge of external sources of OHS information
- nature of common workplace hazards, such as chemicals, bodily fluids, noise, manual handling, work postures, underfoot hazards and moving parts of machinery
- basic hazard identification procedures, such as workplace inspections and review of workplace data
- standard emergency signals, alarms and required responses
- principles of basic risk assessment
- hierarchy of control and its application
- personal protective equipment requirements, including use, storage and maintenance
- roles and responsibilities of employees, supervisors and managers in the workplace
- roles and responsibilities of OHS representatives and OHS committees
- workplace specific information, including:
 - hazards of the particular work environment
 - hazard identification procedures relevant to the hazards in their workplace
 - designated person for raising OHS issues

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• organisation and work procedures particularly those related to performance of own work, specific hazards and risk control, reporting of hazards, incidents and injuries and OHS issue resolution, consultation, use of personal protective equipment and emergency response• potential emergency situations, alarms and signals and required response• the legal rights and responsibilities of the workplace parties |
|---|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- To demonstrate competence in this unit, a candidate must be able to provide evidence of contribution to OHS processes in the workplace. This includes:
 - addressing their own health and safety
 - addressing that of others who may be affected by their actions
 - supporting members of the workgroup who may be less experienced in the workplace in regard to OHS matters
 - taking some initiative to address hazards and manage risks at a systemic level
- Evidence gathered by an assessor to determine competence will include practical demonstration of competence, including:
 - workplace demonstration, simulation exercise, scenario or role play
 - indirect evidence from workplace supervisor reports, workplace documentation, and written responses to problems, scenarios and case studies
- Evidence of workplace performance over time must be obtained to inform a judgement of competence.

Context of and specific resources for assessment

Products that could be used as evidence include:

- verbal and written responses to verbal, pictorial or physical scenarios
- demonstrated response to scenarios, simulations, role plays
- completed hazard or incident reports, completed workplace inspection checklists
- reports from workgroup members, supervisors

Processes that could be used as evidence include:

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • how workplace checks/inspections are carried out • how hazards are addressed • how mentoring of fellow workgroup members is undertaken • how incident investigations reports were completed <p>Access and equity considerations:</p> <ul style="list-style-type: none"> • all assessment should be applied with respect to relevant work related access and equity issues • competence should reflect an ability to work in a culturally diverse environment • assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on Aboriginal and/or Torres Strait Islander clients and communities
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Hazard identification

Hazard identification is

- the process of identifying sources of harm, and may be required:
 - before new forms of work and organisation of work are implemented
 - before changes are made to workplace, equipment, work processes or work arrangements
 - as part of planning major tasks or activities, such as equipment shutdowns
 - following an incident report
 - when new knowledge becomes available
 - at regular intervals during normal operations
 - prior to disposal of equipment, or materials

Hazards

Hazards refer to:

- a source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these

Specific hazards

Specific hazards may include, but are not limited to:

- chemicals
- bodily fluids
- sharps
- noise
- manual handling
- work posture
- underfoot hazards
- moving parts of machinery
- cytotoxic medicines and waste

RANGE STATEMENT	
Other workplace hazards	<p>Other workplace hazards may include:</p> <ul style="list-style-type: none"> • occupational violence • stress • fatigue • bullying
Risks	<p>Risks, in relation to any hazard, means:</p> <ul style="list-style-type: none"> • the probability and consequences of injury, illness or damage resulting from exposure to a hazard
Residual risk	<p>Residual risk is:</p> <ul style="list-style-type: none"> • the risk which remains after controls have been implemented
Organisation procedures	<p>Organisation procedures include:</p> <ul style="list-style-type: none"> • policies and procedures underpinning the management of OHS, including: <ul style="list-style-type: none"> • hazard, incident and injury reporting • hazard identification, risk assessment and control • consultation and participation • quality system documentation
OHS housekeeping	<p>OHS housekeeping includes:</p> <ul style="list-style-type: none"> • workplace and personal routines designed to improve health and safety, for example, cleaning up spills, keeping walkways, exits and traffic areas clear
Information	<p>Information includes:</p> <ul style="list-style-type: none"> • hazard, incident and investigation reports • workplace inspection reports • incident investigation reports • minutes of meetings • job safety analyses and risk assessments • material safety data sheets (MSDS) and registers • employees handbooks • manufacturers' manuals and specifications • information from OHS representatives • reports from OHS committee

RANGE STATEMENT	
	<ul style="list-style-type: none"> information from external sources on hazards and risk relevant to the work group
Work procedures	<p>Work procedures include:</p> <ul style="list-style-type: none"> standard operating procedures batch specifications operator or manufacturer manuals procedures for selecting, fitting, using and maintaining personal protective equipment
Incidents	<p>Incidents include:</p> <ul style="list-style-type: none"> any event that has caused or has the potential for injury, ill-health or damage
Other workplace documentation	<p>Other workplace documentation may include:</p> <ul style="list-style-type: none"> job checklists and schedules workplace inspection checklists
Risk controls	<p>Risk controls include:</p> <ul style="list-style-type: none"> the devices and methods to, where practicable, eliminate the hazard or, where this is not practicable, minimise the risk associated with the hazard
Designated persons	<p>Designated persons may include:</p> <ul style="list-style-type: none"> team leaders supervisors OHS representatives OHS committee members managers organisation OHS personnel other persons designated by the organisation
Hierarchy of control	<p>Hierarchy of control is the preferred order of control measures for OHS risks:</p> <ul style="list-style-type: none"> elimination (e.g. controlling the hazard at the source) substitution (e.g. replacing one substance or activity at the source) engineering control (e.g. installing guards on machinery) administration control (e.g. policies and procedures for safe work practices) personal protective equipment (e.g. respirators)

RANGE STATEMENT	
	and ear plugs)
Emergency signals and alarms	Emergency signals and alarms may include: <ul style="list-style-type: none"> • machinery malfunction alarms • fire alarms • evacuation alarms or announcements • reversing beepers on mobile plant
Emergencies	Emergency may include any abnormal or sudden event that requires immediate action, such as: <ul style="list-style-type: none"> • serious injury events • events requiring evacuation • fires and explosions • hazardous substance and chemical spills • explosion and bomb alerts • security emergencies, such as armed robberies, intruders and disturbed persons • internal emergencies, such as loss of power or water supply and structural collapse • external emergencies and natural disasters, such as flood, storm and traffic accident impacting on the organisation

Unit Sector(s)

Unit sector	Occupational health and safety
--------------------	--------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

FDFOHS4001A Identify, assess and control OHS risk in own work

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency specifies the workplace performance required by a technician or specialist in addressing occupational health and safety (OHS) risk, to ensure their own safety, as well as that of others who may be affected by their work
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is intended for the technician or specialist work role.</p> <p>These technicians or specialists may, in fulfilling their work role, impact the safety of others and/or need to address their own health and safety.</p> <p>The unit assumes these workers are operating within a systematic approach to OHS and availability of OHS specialist advice.</p> <p>Application of this unit should be contextualised to reflect any specific workplace risks, hazards and associated safety practices.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify hazards and assess risk associated with a product or system of work	1.1. The production processes of the product or system of work is mapped 1.2. Hazards at each stage of the production processes are identified 1.3. Hazards are systematically analysed to identify risk of injury, illness or damage arising from the hazard 1.4. Identify factors contributing to the risk are identified 1.5. The product or system of work are assessed and evaluated against requirements of relevant ohs legislation, standards, codes of practice/compliance codes or guidance material 1.6. Potential users of the product or system of work are consulted
2. Control the risk of a product or system of work	2.1. Risk controls are developed based on the hierarchy of control 2.2. Where there is a high consequence OHS risk, fail-to-safe action is designed into the product or system of work to minimise the impact of possible failure or defect 2.3. Product or work system development is monitored as it evolves to identify new hazards and to manage any developing risk 2.4. A risk register is used to document residual risk and recommended actions to minimise risk 2.5. Personal professional limitations are recognised and expert advice sought as required 2.6. The risk management process and resultant risk register is communicated to those who may use or interact with the product or system of work 2.7. Hazard identification, risk assessment and risk control processes are documented and made available to those who may be affected
3. Identify hazards and assess risks in own work	3.1. Sources of OHS information are identified and accessed 3.2. Hazards are identified and eliminated, and residual risk reported according to organisation procedures 3.3. A risk register is used to document residual risk and actions to minimise risk based on the hierarchy of control
4. Control risk in own	4.1. Work practices are confirmed as following

ELEMENT	PERFORMANCE CRITERIA
work	documented work procedures 4.2. Work planning and conduct is confirmed as taking account of residual risk register 4.3. Deficiencies in risk controls are identified, addressed and/or reported according to organisation procedures 4.4. OHS records are maintained as required 4.5. Personal professional limitations are recognised and expert advice sought as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- use technical skills to access OHS information
- use language and literacy skills to comprehend and interpret OHS legislation, guidance material and benchmarks
- communicate with potential users of the product or system of work, other technicians/specialists, managers and experts advisers
- postulate scenarios and analyse the scenarios to identify hazards and analyse risk
- assimilate information from a range of sources
- relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities

Required knowledge

Knowledge of:

- the difference between hazard and risk
- sources of OHS information both internal and external to the organisation
- nature of common workplace hazards, such as chemicals, noise, manual handling work postures, underfoot hazards and moving parts of equipment
- regulatory requirements relevant to the particular industry/type of work site
- requirements for hazard identification and hazard identification processes
- principles of risk management including risk analysis
- examples of safety benchmarks
- the hierarchy of control and its application
- principles of 'safe design' processes
- legislative requirements for record keeping and reporting
- hierarchy of control and its application
- personal protective equipment requirements, including selection, use, storage and maintenance
- workplace specific information, including:
 - in depth knowledge of hazards of the particular work environment and how they cause harm
 - hazard identification procedures relevant to the hazards in their workplace
 - work procedures
- organisation procedures related to OHS, including:
 - hazard, incident and injury reporting
 - hazard identification, risk assessment and control

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• consultation and participation• incident investigation• record keeping |
|--|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- To demonstrate competence in this unit, a candidate must be able to provide evidence of:
 - addressing the OHS risks specific to their technical or specialist workplace role, both in relation to their own health and safety, and to the health and safety of others who may be affected by their work
- Evidence gathered by an assessor to determine competence will include:
 - written or verbal responses to scenarios and case studies
 - provision of workplace examples
 - evidence from workplace supervisor reports
 - portfolio of workplace documentation
- Evidence of workplace performance over time must be obtained to inform a judgement of competence.

Context of and specific resources for assessment

Products that could be used as evidence include:

- responses to case studies, scenarios
- completed reports, plans, risk registers, products
- written directions, emails, memos and other information
- reports from team leaders, senior managers, users, specialist advisors

Processes that could be used as evidence include:

- how risk was assessed
- how risk was controlled

Access and equity considerations:

- all assessment should be applied with respect to relevant work related access and equity issues
- competence should reflect an ability to work in a

EVIDENCE GUIDE	
	<p>culturally diverse environment</p> <ul style="list-style-type: none"> assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on Aboriginal and/or Torres Strait Islander clients and communities.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Production processes	<p>Production processes may include:</p> <ul style="list-style-type: none"> • manufacture, construction and assembly processes • storage • transport • use and operation of equipment • maintenance, servicing, cleaning, adjustment, inspection, repair and modification processes • disposal
System of work	<p>System of work is:</p> <ul style="list-style-type: none"> • work process • work practice or procedure • the way work is organised, such as: <ul style="list-style-type: none"> • team and supervision structure • reporting lines • roster • geographical location
Map	<p>Map includes:</p> <ul style="list-style-type: none"> • people who may use or interface with the product or system of work • the range of uses of the product or system of work, both intended and unintended • movement or flow of production
Hazards	<p>Hazards refer to:</p> <ul style="list-style-type: none"> • a source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these
Specific safety related hazards	<p>Specific safety related hazards may include but are not limited to:</p>

RANGE STATEMENT	
	<ul style="list-style-type: none"> • chemicals • bodily fluids • sharps • noise • manual handling • work posture • underfoot hazards • moving parts of machinery • waste
Other workplace hazards	<p>Other workplace hazards may include:</p> <ul style="list-style-type: none"> • occupational violence • stress • fatigue • bullying
Analysis	<p>Analysis involves analysing a hazard to identify:</p> <ul style="list-style-type: none"> • factors influencing the risk and the range of potential consequences • effectiveness of existing controls • likelihood of each consequence considering exposure and hazard level
Risk	<p>Risks, in relation to any hazard, means:</p> <ul style="list-style-type: none"> • the probability and consequences of injury, illness or damage resulting from exposure to a hazard
OHS legislation	<p>OHS legislation includes:</p> <ul style="list-style-type: none"> • Commonwealth, state and territory OHS Acts and regulations
Standards	<p>Standards include:</p> <ul style="list-style-type: none"> • documents produced by national bodies, OHS regulators or industry bodies, that prescribe preventative action to avert occupational deaths, injuries and diseases • standards are of an advisory nature only, except where a law adopts the standard and thus makes it mandatory • standards may be called up as evidence in court or other enforcement action
Codes of practice/compliance	<p>Codes of practice/compliance codes are</p>

RANGE STATEMENT	
	<p>documents generally prepared to provide advice to employers and workers, of an acceptable way of achieving standards.</p> <p>Codes of practice/compliance codes may:</p> <ul style="list-style-type: none"> • be incorporated into regulations • not relate to a standard • be called up as evidence in court or other enforcement action
Guidance material	<p>Guidance material:</p> <ul style="list-style-type: none"> • is an advisory technical document, providing detailed information for use by unions, employers, management, health and safety committee members and representatives, safety officers and others requiring guidance • advises on 'what to do' and 'how to do it' • has no legal standing
Risk controls	<p>Risk controls include:</p> <ul style="list-style-type: none"> • The devices and methods to: <ul style="list-style-type: none"> • where practicable, eliminate the hazard • where this is not practicable, minimise the risk associated with the hazard
Hierarchy of control	<p>Hierarchy of control is the preferred order of control measures for OHS risks:</p> <ul style="list-style-type: none"> • elimination (e.g. controlling the hazard at the source) • substitution (e.g. replacing one substance or activity at the source) • engineering control (e.g. installing guards on machinery) • administration control (e.g. policies and procedures for safe work practices) • personal protective equipment (e.g. respirators and ear plugs)
High consequence OHS risk	<p>High consequence OHS risk includes:</p> <ul style="list-style-type: none"> • high impact events that usually occur rarely, such as explosions, fires and building collapses but may result in very serious injury, death or multiple death situations

RANGE STATEMENT	
Fail-to-safe	<p>Fail-to-safe includes:</p> <ul style="list-style-type: none"> design features of equipment that ensure a failure or defect, or another factor, such as loss of power, resulting in the equipment being left in a safe condition
Risk register	<p>Risk register is a document detailing:</p> <ul style="list-style-type: none"> a list of hazards, their location and people exposed a range of possible scenarios or circumstances under which these hazards may cause injury or damage nature of injury or damage caused the results of the risk assessment <p>And may also include:</p> <ul style="list-style-type: none"> possible control measures and dates for implementation
Residual risk	<p>Residual risk is:</p> <ul style="list-style-type: none"> the risk which remains after controls have been implemented
Expert advice	<p>Expert advice may be sought from:</p> <ul style="list-style-type: none"> Persons either internal or external to the organisation including: <ul style="list-style-type: none"> safety professionals ergonomists occupational hygienists audiologists safety engineers toxicologists occupational health professionals other persons providing specific technical knowledge or expertise in areas related to OHS including: <ul style="list-style-type: none"> risk managers health professionals injury management advisors regulatory bodies legal practitioners with experience in OHS engineers (such as design, acoustic,

RANGE STATEMENT	
	<p>mechanical and civil)</p> <ul style="list-style-type: none"> • security and emergency response personnel • workplace trainers and assessors • maintenance and tradespersons
Sources of OHS information	<p>Sources of OHS information include persons, organisations and references where knowledge about OHS may be obtained. These sources may be:</p> <ul style="list-style-type: none"> • internal, including: <ul style="list-style-type: none"> • hazard, incident and investigation reports • workplace inspections • incident investigations • minutes of meetings • job safety analyses and risk assessments • organisation data such as insurance records, enforcement notices and actions, workers compensation data, OHS performance data • reports and audits • material safety data sheets (MSDS) and registers • employees handbooks • employees including questionnaire results • OHS advisors • manufacturers' manuals and specifications • external, including: <ul style="list-style-type: none"> • regulatory bodies and OHS Acts regulations, codes and guidance material • other relevant legislation • Office of the Australian Safety and Compensation Council (ASCC) and the former National Occupational Health and Safety Commission (NOHSC) documents • Databases, such as national and state injury data • OHS specialists and consultants • newspapers and journals, trade/industry publications • internet sites

RANGE STATEMENT	
	<ul style="list-style-type: none"> • industry networks and associations, including unions and employer groups • OHS professional bodies • specialist advisors • research information
Organisation policies and procedures	<p>Organisation policies and procedures include:</p> <ul style="list-style-type: none"> • policies and procedures underpinning the management of OHS including: <ul style="list-style-type: none"> • hazard, incident and injury reporting • hazard identification, risk assessment and control • consultation and participation • incident investigation • quality system documentation
Work procedures include:	<p>Work procedures include:</p> <ul style="list-style-type: none"> • standard operating procedures • batch specifications, recipes • operator or manufacturer manuals • procedures for selecting, fitting, using and maintaining personal protective equipment
OHS records may include:	<p>OHS records may include:</p> <ul style="list-style-type: none"> • hazard, incident and investigation reports • workplace inspection reports • first aid records • minutes of meetings • job safety analyses, safe work method statements and risk assessments • MSDS and registers • employees handbooks • plant and equipment operation records including those relevant to registered plant • maintenance and testing reports • training records • environmental monitoring records • health surveillance records

Unit Sector(s)

Unit sector	Occupational health and safety
--------------------	--------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOHS4002A Maintain OHS processes

Modification History

November 2011: minor typographical error corrected.

Unit Descriptor

Unit descriptor	This unit of competency specifies the workplace performance required by an employee with supervisory responsibilities, to maintain organisation OHS processes
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is intended to be applied at the level of team leader or supervisor</p> <p>Workers are likely to perform a broad range of complex and non-routine activities together with leadership and guidance in planning and organising activities for a small work group</p> <p>Application of this unit should be contextualised to reflect any specific workplace risks, hazards and associated safety practices</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Provide information to the work group	<p>1.1. Relevant requirements of OHS legislation, standards, codes of practice/compliance codes, guidance material and safe working procedures and practices are clearly and accurately explained to the work group</p> <p>1.2. Information on organisation policies and procedures is provided in a readily accessible manner and clearly explained to the work group</p> <p>1.3. Roles and responsibilities of workplace OHS representatives and OHS committees, supervisors and managers are clearly explained</p> <p>1.4. Information on hazards, the outcomes of risk assessments, and required risk controls is provided to the work group, in an accessible and understandable format</p>
2. Ensure others are able to implement safe work practices	<p>2.1. Personal protective equipment appropriate to the work is available and functional</p> <p>2.2. Processes are implemented to confirm that others in the work group can identify hazards, assess risks and required risk controls and are following safe work practices, and organisation policies and procedures</p> <p>2.3. OHS training needs are identified and either addressed or reported to those with control</p>
3. Implement OHS participative processes	<p>3.1. Work group is consulted and advice in relation to OHS matters provided relevant to their work</p> <p>3.2. OHS issues raised are dealt with promptly, and in accordance with organisation procedures and legislative requirements, or referred to appropriate personnel</p> <p>3.3. Outcomes of consultation regarding OHS are recorded and promptly communicated to the work group</p>
4. Monitor compliance with work procedures	<p>4.1. Work procedures are checked for availability, clarity and completeness, and any deficiencies addressed or reported to appropriate persons</p> <p>4.2. Any deviations from procedures are identified and addressed or reported to appropriate persons</p> <p>4.3. Hazard identification and reporting processes are evaluated for effectiveness and any deficiencies addressed or reported to appropriate persons</p> <p>4.4. OHS housekeeping practices are monitored to ensure</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>that workplace standards are maintained, and action taken to address any deficiencies</p> <p>4.5. Behaviour is consistent with organisation safe working procedures and practices</p>
<p>5. Implement hazard identification, risk assessment and risk control procedures</p>	<p>5.1. Hazards are identified, assessed and eliminated with residual risk reported according to organisation procedures</p> <p>5.2. Risk assessments are conducted</p> <p>5.3. Develop control measures are developed taking account of the hierarchy of control</p> <p>5.4. Outcomes of risk assessments and identified risk controls are implemented and supported</p> <p>5.5. Deficiencies in ohs risk controls are identified, addressed and/or reported according to organisation procedures</p> <p>5.6. Personal professional limitations are identified and expert advice sought as required</p>
<p>6. Implement organisation procedures for maintaining OHS records</p>	<p>6.1. Feedback is obtained to ensure that workgroup is aware of organisation reporting requirements</p> <p>6.2. OHS records are reviewed to confirm that they are completed in an accurate, thorough and timely manner in accordance with legislative and organisation requirements</p> <p>6.3. Aggregate information and data from records is used to identify hazards and monitor risk controls</p>
<p>7. Implement emergency procedures</p>	<p>7.1. Feedback is obtained to ensure that emergency procedures are available and known by the work group</p> <p>7.2. Processes are implemented to ensure that emergency equipment is available and routinely checked for functionality</p> <p>7.3. Processes are implemented to ensure that others in the workgroup are able to respond appropriately to emergencies</p> <p>7.4. Investigations are conducted or contributed to in order to identify causes of emergencies</p> <p>7.5. Control measures are identified, implemented or supported to prevent recurrence and minimise risk of emergencies</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- use technical skills to access OHS information
- use language and literacy skills to interpret OHS documentation
- communicate with personnel in the work team, other work teams, managers and experts advisers
- supervise and direct staff
- conduct team meetings
- relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities

Required knowledge

Knowledge of:

- the difference between hazard and risk
- sources of OHS information both internal and external to the workplace
- general duty requirements of OHS legislation and also regulatory requirements relevant to the particular industry/type of work site
- the roles and responsibilities of employees, supervisors and managers in the workplace
- nature of common workplace hazards, such as chemicals, noise, manual handling, work postures, underfoot hazards and moving parts of machinery
- guidance material, including codes of practice/compliance codes relevant to the particular industry/type of work site
- hazard identification procedures, such as workplace inspections and review of workplace data
- principles of risk management including the hierarchy of control and its application
- personal protective equipment requirements, including use, storage and maintenance
- legislative requirements for record keeping and reporting
- standards and guidelines related to emergency procedures
- roles and responsibilities of OHS representatives and OHS committees
- workplace specific information, including:
 - hazards of the particular work environment
 - hazard identification procedures relevant to the hazards in their work place
 - risk controls for specific hazards
 - designated person for raising OHS issues

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• organisation procedures related to OHS, including hazard, incident and injury reporting, hazard identification, risk assessment and control, consultation and participation, incident investigation and record keeping• work procedures related to the work of the team/work group including use of personal protective equipment and emergency response• potential emergency situations, alarms and signals and required response |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<ul style="list-style-type: none"> • To demonstrate competence in this unit, a candidate must be able to provide evidence of: <ul style="list-style-type: none"> • maintaining OHS processes in the workplace particularly in relation to the supervision of a small workgroup • Evidence gathered by an assessor to determine competence will include: <ul style="list-style-type: none"> • written or verbal responses to scenarios and case studies • provision of workplace examples • evidence from workplace supervisor reports • portfolio of workplace documentation • Evidence of workplace performance over time must be obtained to inform a judgement of competence.
<p>Context of and specific resources for assessment</p>	<p>Products that could be used as evidence include:</p> <ul style="list-style-type: none"> • verbal and written responses to verbal, written or physical scenarios • completed examples of information provided to work group, risk assessments, risk controls developed, reports to managers, reports on workplace inspections, audits, emergency exercises • reports from work group members, supervisor <p>Processes that could be used as evidence include:</p> <ul style="list-style-type: none"> • how information transfer was organised and conducted • how risk assessments were conducted • how deviations from workplace procedures were addressed <p>Access and equity considerations:</p> <ul style="list-style-type: none"> • all assessment should be applied with respect

EVIDENCE GUIDE	
	<p>relevant work related access and equity issues</p> <ul style="list-style-type: none"> • competence should reflect an ability to work in a culturally diverse environment • assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on Aboriginal and/or Torres Strait Islander clients and communities.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
OHS legislation	<p>OHS legislation includes:</p> <ul style="list-style-type: none"> • commonwealth, state and territory OHS Acts and regulations
Standards	<p>Standards include:</p> <ul style="list-style-type: none"> • documents produced by national bodies, OHS regulators or industry bodies, that prescribe preventative action to avert occupational deaths, injuries and diseases • standards are of an advisory nature only, except where a law adopts the standard and thus makes it mandatory • they may be called up as evidence in court or other enforcement action
Codes of practice/compliance codes	<p>Codes of practice/compliance codes are:</p> <ul style="list-style-type: none"> • documents generally prepared to provide advice to employers and workers, of an acceptable way of achieving standards • codes of practice/compliance codes may: <ul style="list-style-type: none"> • be incorporated into regulations • not relate to a standard • be called up as evidence in court or other enforcement action
Guidance material	<p>Guidance material:</p> <ul style="list-style-type: none"> • is an advisory technical document, providing detailed information for use by unions, employers, management, health and safety committee members and representatives, safety officers and others requiring guidance • advises on 'what to do' and 'how to do it' • has no legal standing
Organisation policies and	<p>Organisation policies and procedures include:</p>

RANGE STATEMENT	
procedures include:	<ul style="list-style-type: none"> • policies and procedures underpinning the management of OHS, including: <ul style="list-style-type: none"> • hazard, incident and injury reporting • hazard identification, risk assessment and control • consultation and participation • incident investigation • quality system documentation
Hazards	<p>Hazards refer to:</p> <ul style="list-style-type: none"> • a source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these
Specific safety related hazards	<p>Specific safety related hazards may include but are not limited to:</p> <ul style="list-style-type: none"> • chemicals • bodily fluids • sharps • noise • manual handling • work posture • underfoot hazards • moving parts of machinery • cytotoxic medicines and waste
Other workplace hazards	<p>Other workplace hazards may include:</p> <ul style="list-style-type: none"> • occupational violence • stress • fatigue • bullying
Risks	<p>Risks, in relation to any hazard, means:</p> <ul style="list-style-type: none"> • the probability and consequences of injury, illness or damage resulting from exposure to a hazard
Risk assessments	<p>Risk assessments involve analysing a hazard to:</p> <ul style="list-style-type: none"> • identify factors influencing the risk and the range of potential consequences, such as: • effectiveness of existing controls • likelihood of each consequence considering

RANGE STATEMENT	
	exposure and hazard level
Risk controls	<p>Risk controls include:</p> <p>The devices and methods to, where practicable, eliminate the hazard or, where this is not practicable, minimise the risk associated with the hazard</p>
Personal protective equipment	<p>Personal protective equipment includes:</p> <ul style="list-style-type: none"> • equipment worn by a person to provide protection from hazards, by providing a physical barrier between the person and the hazard and may include: <ul style="list-style-type: none"> • head protection • face and eye protection • respiratory protection • hearing protection • hand protection • clothing and footwear
Work procedures	<p>Work procedures include:</p> <ul style="list-style-type: none"> • standard operating procedures • batch specifications • operator or manufacturer manuals • procedures for selecting, fitting, using and maintaining personal protective equipment
Hazard identification	<p>Hazard identification is:</p> <ul style="list-style-type: none"> • the process of identifying sources of harm and may be required: <ul style="list-style-type: none"> • at design or pre purchase of equipment and materials • at commissioning or pre-implementation of new processes or practices • before new forms of work and organisation of work are implemented • before changes are made to workplace, equipment, work processes or work arrangements • as part of planning major tasks or activities, such as equipment shutdowns • following an incident report

RANGE STATEMENT	
	<ul style="list-style-type: none"> • when new knowledge becomes available • at regular intervals during normal operations • prior to disposal of equipment, buildings or materials
Reporting processes	<p>Reporting processes include:</p> <ul style="list-style-type: none"> • hazards reports • maintenance requests and reports • reports on completion of inspections • incident reports • reports of non-compliance with work procedures • reporting on progress of action plans
OHS housekeeping practices	<p>OHS housekeeping practices address items, such as:</p> <ul style="list-style-type: none"> • workplace cleanliness and tidiness • unobstructed walkways and emergency exits • underfoot conditions • work space around equipment and machinery • functioning services, such as lighting, air flow and ventilation, and emergency lighting • storage areas including manual handling issues, storage, personal protective equipment • signage
Residual risk	<p>Residual risk is:</p> <ul style="list-style-type: none"> • the risk which remains after controls have been implemented
Hierarchy of control	<p>Hierarchy of control is the preferred order of control measures for OHS risks:</p> <ul style="list-style-type: none"> • elimination (e.g. controlling the hazard at the source) • substitution (e.g. replacing one substance or activity at the source) • engineering control (e.g. installing guards on machinery) • administration control (e.g. policies and procedures for safe work practices) • personal protective equipment (e.g. respirators and ear plugs)

RANGE STATEMENT**Expert advice**

Expert advice can be obtained from:

- persons either internal or external to the organisation including:
 - safety professionals
 - ergonomists
 - occupational hygienists
 - audiologists
 - safety engineers
 - toxicologists
 - occupational health professionals
 - OHS representatives
 - OHS committees
- other persons providing specific technical knowledge or expertise in areas related to OHS, including:
 - risk managers
 - health professionals
 - injury management advisors
 - regulatory bodies
 - legal practitioners with experience in OHS
 - engineers (e.g. design, acoustic, mechanical and civil)
 - security and emergency response personnel
 - workplace trainers and assessors
 - maintenance and trade persons

OHS records

OHS records may include:

- hazard, incident and investigation reports
- workplace inspection reports
- first aid records
- minutes of meetings
- job safety analyses, safe work method statements and risk assessments
- material safety data sheets (MSDS) and registers
- employees handbooks
- plant and equipment operation records, including those relevant to registered plant
- maintenance and testing reports

RANGE STATEMENT	
	<ul style="list-style-type: none"> • training records • environmental monitoring records • health surveillance records
Legislative requirements for record keeping	<p>Legislative requirements for record keeping include those specified under:</p> <ul style="list-style-type: none"> • OHS legislation for: <ul style="list-style-type: none"> • serious incident and injury reporting • registered plant • hazardous substances and dangerous goods • environmental monitoring • health surveillance • Privacy legislation
Emergencies	<p>Emergencies may include any abnormal or sudden event that requires immediate action, such as:</p> <ul style="list-style-type: none"> • serious injury events • events requiring evacuation • fires and explosions • hazardous substance and chemical spills • explosion and bomb alerts • security emergencies, such as armed robberies, intruders and disturbed persons • internal emergencies, such as loss of power or water supply and structural collapse • external emergencies and natural disasters, such as flood, storm and traffic accident impacting on the organisation
Emergency equipment	<p>Emergency equipment is equipment required as part of the emergency response by the organisation and includes:</p> <ul style="list-style-type: none"> • first aid equipment • eye wash shower or portable eye washes • fire extinguishers and equipment • communication equipment • evacuation alarms • evacuation equipment, especially that for disabled persons • torches • items of clothing, such as coloured hats and vests

RANGE STATEMENT**Incidents**

Incidents include:

- any event that has caused or has the potential for injury, ill-health or damage

Unit Sector(s)**Unit sector**

Occupational health and safety

Competency field**Competency field****Co-requisite units****Co-requisite units**

FDFOHS5001A Manage OHS processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency specifies the workplace performance required by an individual responsible for ongoing management of occupational health and safety (OHS) within an area of management responsibility, where the OHS management processes have been set up by other persons, either internal or external to the organisation.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit is intended for application by a manager of small organisation or several work groups or a larger group within an organisation.</p> <p>Work is likely to have a focus on maintaining already established processes and the unit assumes that OHS advice and expertise would be available.</p> <p>Application of this unit should be contextualised to reflect any specific workplace risks, hazards and associated safety practices.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Manage OHS information and records	<p>1.1. Relevant OHS legislation, standards, codes of practice/compliance codes, guidance material and other sources of OHS information are identified and accessed and their relevance to the specific work context is evaluated</p> <p>1.2. Information on OHS requirements, trends and risk controls is collected, collated and provided to others</p> <p>1.3. Records and record keeping processes are reviewed to ensure that legal requirements for OHS record keeping are identified and addressed</p> <p>1.4. Processes for ensuring that OHS records are accurately completed, collected and stored are implemented and monitored in accordance with legal requirements and workplace procedures</p>
2. Manage OHS participative processes	<p>2.1. Participative processes are monitored to ensure compliance with legislative requirements and organisation procedures</p> <p>2.2. Information provided to employees is evaluated to ensure it is in a readily accessible and understandable format</p> <p>2.3. Processes for ensuring that workgroup members have an opportunity, either directly or through their representative, to contribute to decisions that may affect their health and safety are implemented and monitored</p> <p>2.4. Processes for addressing OHS issues are evaluated to ensure issues raised through consultation are resolved promptly and in line with organisation procedures and legislative requirements</p> <p>2.5. Information about the outcomes of consultation is provided promptly in a format and medium that is readily accessible to employees</p>
3. Manage OHS risk management processes	<p>3.1. Hazard, incident, and injury reporting and investigation processes are in place, to meet legislative requirements and to inform future prevention strategies</p> <p>3.2. Processes are in place so that hazard identification and risk assessments occur according to organisation procedures</p> <p>3.3. Risk controls and hazard specific procedures are consistent with the hierarchy of control and are</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>monitored to support compliance with legislative and regulatory requirements</p> <p>3.4. Processes are in place to identify and address any OHS implications of either proposed or implemented changes to the workplace, work processes or organisation of work</p> <p>3.5. Limits of own professional expertise are recognised and expert advisors consulted as required</p>
4. Manage OHS training program	<p>4.1. OHS training needs assessment is undertaken for workgroup members, that takes account of legislative and regulatory requirements, internal policies and procedures, existing skills of work group members and risk control requirements</p> <p>4.2. Training programs are implemented and monitored to ensure identified OHS training requirements are addressed</p> <p>4.3. Processes to ensure that all new employees receive ohs induction are implemented and monitored</p> <p>4.4. Relevant OHS and training specialists are accessed and consulted as required in the development and implementation of the OHS training program</p>
5. Manage OHS continuous improvement process	<p>5.1. Input from individuals and workgroup is considered in identifying and implementing OHS improvement</p> <p>5.2. OHS priorities are determined in consultation with appropriate managers and stakeholders</p> <p>5.3. OHS action plans are developed taking account of priorities and training needs</p> <p>5.4. Achievements against the OHS plans are monitored and updated accordingly</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- use technical skills to access OHS information
- use language, literacy and conceptual skills to analyse and evaluate OHS information
- communicate with supervisors, other managers, staff, OHS inspectors and expert advisers in a range of contexts, and using a range of media and formats
- conduct effective meetings
- develop solutions to complex OHS problems, utilising information from a range of sources
- apply an action planning process
- assimilate information from a range of sources to evaluate effectiveness of processes
- relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities

Required knowledge

Essential knowledge:

- the difference between hazard and risk
- sources of OHS information both internal and external to the workplace
- understanding of OHS legislation and regulatory requirements relevant to the particular industry/type of work site
- the roles and responsibilities of employees, supervisors and managers in the workplace
- legislative requirements for consultation
- legal and practical requirements for OHS training
- legal requirements for OHS record keeping and reporting
- knowledge and understanding of guidance material, including codes of practice/compliance codes relevant to the particular industry/type of work site
- risk assessment process, including:
 - hazard identification procedures
 - principles of risk assessment
 - the hierarchy of control and its application
- legislative requirements for record keeping and reporting
- systems for identifying skill needs, such as:
 - performance reviews

REQUIRED SKILLS AND KNOWLEDGE

- training needs analysis
- identifying additional training needs of learners
- workplace specific information, including:
 - hazards of the particular work environment and how they cause harm
 - hazard identification procedures relevant to the hazards in their workplace
 - designated person for raising OHS issues
 - organisation procedures related to OHS, including hazard, incident and injury reporting, hazard identification, risk assessment and control, consultation and participation, incident investigation and record keeping
 - awards and enterprise agreements that impact on the particular workplace
 - the characteristics and composition of the workforce and how they may impact on the management of OHS

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<ul style="list-style-type: none"> • To demonstrate competence in this unit, a candidate must be able to provide evidence of: <ul style="list-style-type: none"> • managing OHS processes for a small organisation or a group(s) of persons undertaking a range of work • Evidence gathered by an assessor to determine competence will include: <ul style="list-style-type: none"> • written or verbal responses to scenarios and case studies • reports from persons who have been involved in the management processes • portfolio of workplace documents • Evidence of workplace performance over time must be obtained to inform a judgement of competence.
<p>Context of and specific resources for assessment</p>	<p>Products that could be used as evidence include:</p> <ul style="list-style-type: none"> • verbal and written responses to verbal, pictorial or physical scenarios • demonstrated action to scenarios, simulations and role plays • completed reports to senior managers • written directions, emails, memos and other information provided to supervisors in area of responsibility • reports from team leaders, senior managers, other managers, specialist advisors <p>Processes that could be used as evidence include:</p> <ul style="list-style-type: none"> • how training needs were identified and addressed • how action plans are developed, monitored and updated • how hazard identification and risk assessment occur

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • how incident investigation occurs <p>Access and equity considerations:</p> <ul style="list-style-type: none"> • all assessment should be applied with respect to relevant work related access and equity issues • competence should reflect an ability to work in a culturally diverse environment • assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on Aboriginal and/or Torres Strait Islander clients and communities.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
OHS legislation	<p>OHS legislation includes:</p> <ul style="list-style-type: none"> • commonwealth, state and territory OHS acts and regulations
Standards	<p>Standards include:</p> <ul style="list-style-type: none"> • documents produced by national bodies, OHS regulators or industry bodies, that prescribe preventative action to avert occupational deaths, injuries and diseases • standards are of an advisory nature only, except where a law adopts the standard and thus makes it mandatory • they may be called up as evidence in court or other enforcement action
Codes of practice/compliance codes	<p>Codes of practice/compliance codes are:</p> <ul style="list-style-type: none"> • documents generally prepared to provide advice to employers and workers, of an acceptable way of achieving standards • codes of practice/compliance codes may: <ul style="list-style-type: none"> • be incorporated into regulations • not relate to a standard • be called up as evidence in court or other enforcement action
Guidance material	<p>Guidance material:</p> <ul style="list-style-type: none"> • is an advisory technical document, providing detailed information for use by unions, employers, management, health and safety committee members and representatives, safety officers and others requiring guidance • advises on 'what to do' and 'how to do it' • has no legal standing
Other sources of OHS	<p>Other sources of OHS information include persons, organisations and references where</p>

RANGE STATEMENT**information**

knowledge about OHS may be obtained. These sources may be:

- internal, including:
 - hazard, incident and investigation reports
 - workplace inspections
 - incident investigations
 - minutes of meetings
 - job safety analyses and risk assessments
 - organisation data such as insurance records, enforcement notices and actions, workers compensation data, OHS performance data
 - reports and audits
 - material safety data sheets (MSDS) and registers
 - employees handbooks
 - employees including questionnaire results
 - OHS advisors
 - manufacturers' manuals and specifications
- external, including:
 - regulatory bodies and OHS Acts regulations, codes and guidance material
 - other relevant legislation
 - Office of the Australian Safety and Compensation Council (ASCC) and the former National Occupational Health and Safety Commission (NOHSC) documents
 - Databases, such as national and state injury data
 - OHS specialists and consultants
 - newspapers and journals, trade/industry publications
 - internet sites
 - industry networks and associations, including unions and employer groups
 - OHS professional bodies
 - specialist advisors
 - research information

OHS information

OHS information includes:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • requirements under OHS legislation, regulations, standards, codes of practice/compliance codes and guidelines • rights and responsibilities • information on hazards including MSDS • collated information on hazard incidents and injuries • investigation and audit reports • outcomes of hazard identifications and workplace inspections • risk assessments • risk controls • workplace OHS policies and procedures • work procedures • training records
Risk controls	<p>Risk controls include:</p> <p>The devices and methods to, where practicable, eliminate the hazard or, where this is not practicable, minimise the risk associated with the hazard</p>
Legal requirements for record keeping	<p>Legal requirements for record keeping include:</p> <ul style="list-style-type: none"> • those specified under OHS legislation and regulations for: <ul style="list-style-type: none"> • serious incident and injury reporting • registered plant • hazardous substances and dangerous goods • environmental monitoring • health surveillance • Privacy legislation
OHS records	<p>OHS records may include:</p> <ul style="list-style-type: none"> • hazard, incident and investigation reports • workplace inspection reports • incident investigation reports • first aid records • minutes of meetings • job safety analyses and risk assessments • MSDS and registers • plant and equipment operation records including those relevant to registered plant

RANGE STATEMENT	
	<ul style="list-style-type: none"> • maintenance and testing reports • training records • environmental monitoring records • health surveillance records
Participative processes	<p>Participative processes include:</p> <ul style="list-style-type: none"> • processes that: <ul style="list-style-type: none"> • inform employees and other stakeholders of OHS matters • seek their input • offer opportunity for stakeholders to participate in decisions that may impact on their health and safety • participative processes may also be referred to as 'consultative processes', however 'participation' implies a higher level of involvement
Organisation policies and procedures	<p>Organisation policies and procedures include:</p> <ul style="list-style-type: none"> • policies and procedures underpinning the management of OHS, including: <ul style="list-style-type: none"> • hazard, incident and injury reporting • hazard identification, risk assessment and control • consultation and participation • incident investigation • quality system documentation
Consultation	<p>Consultation includes processes for:</p> <ul style="list-style-type: none"> • seeking information or the opinions from one or more people prior to decision-making • consultation should particularly include those who may affect the outcomes or be affected by the decisions made but may also include specialist sources
A hazard	<p>Hazards refer to:</p> <ul style="list-style-type: none"> • a source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these
Specific safety related hazards	<p>Specific safety related hazards may include but</p>

RANGE STATEMENT	
	<p>are not limited to:</p> <ul style="list-style-type: none"> • chemicals, • bodily fluids • sharps • noise • manual handling • work posture • underfoot hazards • moving parts of machinery • cytotoxic medicines and waste
Other workplace hazards	<p>Other workplace hazards may include:</p> <ul style="list-style-type: none"> • occupational violence • stress • fatigue • bullying
Incident	<p>Incident includes:</p> <ul style="list-style-type: none"> • any event that has caused or has the potential for injury, ill health or damage
Hazard identification	<p>Hazard identification is:</p> <ul style="list-style-type: none"> • the process of identifying sources of harm and may be required: <ul style="list-style-type: none"> • at design or pre purchase of equipment and materials • at commissioning or pre-implementation of new processes or practices • before new forms of work and organisation of work are implemented • before changes are made to workplace, equipment, work processes or work arrangements • as part of planning major tasks or activities, such as equipment shutdowns • following an incident report • when new knowledge becomes available • at regular intervals during normal operations • prior to disposal of equipment, buildings or materials

RANGE STATEMENT	
Risks	<p>Risks, in relation to any hazard, means:</p> <ul style="list-style-type: none"> the probability and consequences of injury, illness or damage resulting from exposure to a hazard
Risk assessments	<p>Risk assessments involve analysing a hazard to:</p> <ul style="list-style-type: none"> identify factors influencing the risk and the range of potential consequences effectiveness of existing controls likelihood of each consequence considering exposure and hazard level and combining these in some way to obtain a level of risk
Hierarchy of control	<p>Hierarchy of control is the preferred order of control measures for OHS risks:</p> <ul style="list-style-type: none"> elimination (e.g. controlling the hazard at the source) substitution (e.g. replacing one substance or activity at the source) engineering control (e.g. installing guards on machinery) administration control (e.g. policies and procedures for safe work practices) personal protective equipment (e.g. respirators and ear plugs)
Expert advisors	<p>Expert advisors include:</p> <ul style="list-style-type: none"> persons either internal or external to the organisation including: <ul style="list-style-type: none"> safety professionals ergonomists occupational hygienists audiologists safety engineers toxicologists occupational health professionals other persons providing specific technical knowledge or expertise in areas related to OHS, including: <ul style="list-style-type: none"> risk managers health professionals

RANGE STATEMENT	
	<ul style="list-style-type: none"> • injury management advisors • legal practitioners with experience in OHS • engineers (e.g. design, acoustic, mechanical and civil) • security and emergency response personnel • workplace trainers and assessors • maintenance and trade persons
OHS induction	<p>OHS induction includes:</p> <ul style="list-style-type: none"> • the processes by which new employees are introduced to, and acquainted with their job and the new workplace, including familiarisation with: <ul style="list-style-type: none"> • hazards and risks associated with the work, • risk control measures, • welfare facilities and • emergency response procedures
Stakeholders	<p>Stakeholders are those people or organisations who may be affected by, or perceive themselves to be affected by an activity or decision, including:</p> <ul style="list-style-type: none"> • managers • supervisors • health and safety and other employee representatives • OHS committees • employees and contractors • the community
OHS action plans	<p>OHS action plans include:</p> <ul style="list-style-type: none"> • documented plans developed within the workplace to implement a systematic approach to OHS management and contain: <ul style="list-style-type: none"> • actions that support an integrated strategy to address deficiencies, meet obligations or provide for improved outcomes • allocated responsibilities • timeframes

Unit Sector(s)

Unit sector	Occupational health and safety
--------------------	--------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1001A Pack or unpack product manually

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to pack or unpack product manually. Packing may be into or from primary or secondary (inner or outer) packaging.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing packing environment. It typically targets the worker responsible for manual packing which may include product presentation and placement in packaging.</p> <p>Product feed may be mobile (conveyors) or stationary. Related equipment may include materials transfer equipment, plastic wrapping, shrink wrappers, taping, banding and strapping equipment, and date coders. These basic items of equipment can be covered by FDFOP1005A Operate basic equipment.</p> <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to pack or unpack product	1.1. Packaging requirements are identified 1.2. Packaging consumables are checked against product type
2. Manually pack or unpack product	2.1. Product is packed or unpacked to meet customer and order specifications 2.2. Unacceptable packaging consumables, product and/or packed products are identified, removed and corrected or reported 2.3. The work area is maintained according to housekeeping standards 2.4. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information on product and packaging requirements and procedures
- select, fit and use personal protective clothing and/or equipment
- confirm supply of packaging components and consumables appropriate for product type, which may require confirming stock numbers and codes
- confirm that product is in correct condition, which may require confirming product and date codes and product characteristics, such as weight and appearance
- pace work to meet production requirements
- pack or unpack product to meet specifications, including checking positioning of product within packaging, inspecting appearance and confirming that the packaged product meets customer and quality requirements
- correct and/or report product and/or packaging that is out-of-specification within level of responsibility
- maintain work area to meet housekeeping standards
- operate basic packaging equipment related to manual packing function, such as materials handling/conveyor equipment, shrink wrappers, and banding and strapping equipment according to enterprise procedures
- stack or place product as required, including following stacking configurations according to enterprise procedures
- clean and sanitise equipment and surfaces according to enterprise procedures
- complete workplace records as required according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and function of packaging
- quality requirements of packaging components and consumables, the packing process, and the effect of outputs on both the further stages of packaging and storage, and on the final consumer
- packaging components and consumables used for each product type
- packaging, unpacking and/or wrapping and/or placement procedures for each product type

REQUIRED SKILLS AND KNOWLEDGE

- consequences of incorrect procedures or configuration
- specifications for packing/packaging product and related equipment, components and consumables as required, including identifying any special packing/packaging requirements of particular customers
- storage and handling requirements of product
- contamination/food safety risks associated with manual packing and related control measures
- common causes of variation in both product presented for packing and packing components and consumables and corrective action required
- occupational health and safety (OHS) hazards and controls, including appropriate materials handling techniques related to the role
- environmental issues and controls relevant to packing, including waste/rework collection and handling procedures related to the process
- basic operating principles of equipment used, where relevant, such as main equipment components, status and purpose of guards, emergency stop, isolation and lockout controls, equipment operating capacities and applications
- services required and action to take if services are not available
- pallet identification and management system where relevant
- recording procedures and responsibilities where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • ensure product and required packing materials are ready and prepared for packing or unpacking • pack or unpack to required standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • production schedule and batch instructions • packaging specifications • relevant materials, packaging components and consumables, and related equipment • workplace records as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP1005A Operate basic equipment • FDFOP2004A Clean and sanitise equipment.

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules • labels and codes • safety signs and symbols • materials safety data sheets (MSDS) • standard forms • verbal messages • requests or instructions
Packing	<p>Packing or unpacking may be into or from primary or secondary (inner or outer) packaging and can include but is not limited to:</p> <ul style="list-style-type: none"> • boxes • tubs • liners • trays and foils

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1002A Operate automated washing equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prepare, load, operate and troubleshoot automated washing equipment.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a food processing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of automated washing equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare washing equipment for operation	1.1. Items to be washed are identified and loaded 1.2. Equipment is checked to confirm readiness for use 1.3. Services are confirmed as available and ready for use 1.4. Wash cycle settings are selected to meet safety and wash requirements
2. Operate and monitor the equipment	2.1. Equipment is operated and monitored according to company procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Equipment is shut down according to workplace procedure 2.5. Washed items are unloaded and positioned in required location 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- select, fit and use appropriate personal protection clothing and/or equipment
- check that equipment, chemical supply and services are ready for operation
- identify washing requirements and select appropriate equipment settings
- load items to be washed
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings, cancelling isolation or lockouts as required, confirming that equipment is clean and all safety guards are in place and operational
- initiate and monitor the process and equipment operation according to procedure
- monitor the output of equipment operation against requirements
- take corrective action as required, such as clearing jams or blockages (depending on equipment this may involve confirming equipment is safe to work on, removing panels and components to access blockage, clearing blockage and returning equipment to operating condition)
- remove and position items as required
- handle washed items to meet hygiene and sanitation requirements
- locate emergency stop functions on equipment
- demonstrate shutdown and cleaning procedures as required
- maintain work area to meet housekeeping standards
- use basic process control screens and panels according to enterprise procedures
- complete workplace records according to enterprise procedures
- clean equipment as required, such as cleaning, flushing, sanitising and checking operational lines according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose of equipment, such as the capacity of container washing equipment, status and purpose of guards, range of containers/parts and other items that can be washed, and container washing functions (e.g. washing, sanitising and drying)
- operating cycles and application to washing requirements
- required output and quality of cleaning/sanitising to be met by the washing process

REQUIRED SKILLS AND KNOWLEDGE

- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of faults or unacceptable performance of the container washing process and related troubleshooting procedures within level of responsibility
- occupational health and safety (OHS) hazards and controls
- shutdown and cleaning procedures, including isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting problems
- environmental issues and controls relevant to equipment operation, including waste collection and handling procedures related to the container washing process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- recording procedures and responsibilities where relevant
- cleaning and sanitation requirements where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on washing equipment • start, operate and monitor process to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on safe work practices • washing schedules and specifications • MSDS where appropriate • automated washing equipment and accessories • items to be washed • services as required • relevant OHS clothing and equipment • workplace records as required • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2030A Operate a process control interface.
Guidance information for	<p>To ensure consistency in one's performance, competency</p>

EVIDENCE GUIDE

assessment

should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out in accordance with company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements. When applied to the pharmaceutical industry, relevant GMP codes apply and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules • labels and codes • safety signs and symbols • materials safety data sheets (MSDS) • standard forms • verbal messages • requests or instructions
Automated washing equipment	<p>Automated washing equipment may include:</p> <ul style="list-style-type: none"> • multi-function equipment, such as washing, sanitising and drying stages or may be single function
Items washed may include	<p>Items washed may include:</p> <ul style="list-style-type: none"> • bottles • tubs • crates • moulds • other containers and equipment parts
Operation of equipment and processes	<p>Operation of equipment and processes may:</p> <ul style="list-style-type: none"> • require the use of simple operating panels
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be

RANGE STATEMENT	
	carried out by a dedicated cleaning crew)
Services	Services may include: <ul style="list-style-type: none"> • power • water • steam

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1003A Carry out manual handling tasks

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to participate in workplace processes to identify manual handling requirements of a work function, identify manual handling risks, assess level of risk and apply appropriate risk elimination or control measures.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to a worker required to conduct lifting or moving of items as part of their work role. It is designed to support existing workplace programs to manage occupational health and safety (OHS) hazards by enabling employees to contribute to risk assessment and control. It may include the use of related equipment, such as trolleys, pallet jacks and other manual handling aids.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Participate in processes to identify and assess manual handling	1.1. Manual handling components of a work function are identified 1.2. Manual handling risks are identified and reported in accordance with hazard and incident reporting procedures 1.3. Risks to self and others of manual handling are assessed within level of responsibility
2. Contribute to manual handling risk minimisation	2.1. Equipment is available and in a fit state for use 2.2. Clothing and footwear, including personal protective clothing, does not contribute to manual handling risk
3. Plan and conduct manual handling	3.1. Sources of risk are identified 3.2. Workplace layout and environment is modified within area of control to minimise manual handling risk 3.3. Work tasks are modified within area of control to minimise the risk of injury 3.4. Manual handling aids are used according to workplace instructions 3.5. Movement and postures used minimise the risk of injury within the limits of the work environment and the demands of the task

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information relating to use of equipment and other task requirements
- identify any manual handling requirements of the work function and specifically any manual handling risks
- report manual handling risks using appropriate hazard and incident reporting procedures
- identify manual handling risks, including:
 - risks to self and others
 - any existing arrangements to control risks
- identify scope of responsibility to eliminate or control level of risk (for hazards outside scope of responsibility, identify and use the appropriate reporting and consultation arrangements to address hazards)
- participate in consultative processes to evaluate options for removing or controlling manual handling risks, including applying hierarchy of control
- select appropriate equipment and techniques to suit manual handling task within workplace procedures
- inspect manual handling-related equipment/aids/tools to confirm fitness for use, including identifying and correcting and/or reporting signs of wear and tear
- follow procedures to complete manual handling tasks to maintain safety of self and others
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- different types of manual handling activities, including lifting, reaching, pushing, pulling, holding, restraining, throwing and carrying
- types of injuries that can result from manual handling
- aspects of manual handling that may be risks (hazard identification), such as:
 - repetitive or sustained application of force
 - repetitive or sustained awkward posture
 - repetitive or sustained movement
 - application of high force

REQUIRED SKILLS AND KNOWLEDGE

- manual handling of live animals (related to handling of poultry)
- manual handling of unstable or unbalanced loads, such as liquids
- workplace procedures and responsibilities for identifying and reporting manual handling hazards
- factors to be considered when assessing manual handling risks relevant to work role (refer to workplace risk assessment sheets and code of practice advice where available), including:
 - postures
 - movements
 - force required
 - duration and frequency of manual handling activity
 - environmental conditions, such as hot and cold work environments
- procedures and responsibilities for conducting risk assessments of manual handling tasks
- typical options for eliminating or controlling manual handling risks associated with work functions, including principles of hierarchy of control and the advantages and disadvantages of different options
- types of equipment and/or techniques used to eliminate or reduce manual handling risks in the workplace, including when and how to use each type of technique/equipment relevant to manual handling tasks in work role
- level of authority to address OHS issues related to manual handling and related workplace arrangements for managing safety issues
- sources of advice on manual handling relevant to work function
- equipment available to assist manual handling, related inspections required to identify faulty equipment and related reporting procedures
- movement and postures that increase the risk of injury, and movements and postures to minimise the force in the body as applied to specific tasks in the workplace

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • identify manual handling tasks required for work activity and associated risks • eliminate risk through movement, posture and effectively using equipment provided • modify work to eliminate or minimise risk • apply safe work procedures.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • work procedures, including advice on manual handling requirements and safe work practices • workplace documentation and related advice, such as codes of practice to support OHS arrangements for hazard identification, risks assessment and control • materials and related equipment as appropriate for manual handling • information on equipment capacity and operating procedures where relevant • reporting and monitoring systems.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, legislation, regulations and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • OHS procedures • equipment manufacturers' advice • material safety data sheets (MSDS) • codes of practice and related advice
Equipment	<p>Equipment may include but is not limited to:</p> <ul style="list-style-type: none"> • trolleys • pallet jacks • conveyors, • vacuum lifters • other mechanical handling and lifting aids and equipment
Task-specific training	Task specific training is provided as appropriate
Contributions to manual handling risk minimisation	<p>Contributions to manual handling risk minimisation includes:</p> <ul style="list-style-type: none"> • reporting equipment requiring maintenance, especially wheeled equipment or other equipment where friction may increase force requirements
Changes to workplace layout and environment	<p>Changes to workplace layout and environment within area of control may include but not be limited to:</p> <ul style="list-style-type: none"> • changes in location of load, such as use of bench to not lift from floor • arrangement of items to eliminate above shoulder handling

RANGE STATEMENT	
	<ul style="list-style-type: none"> • placement of trolley • using sit stand stools • using task lighting • using a footrest
Task modifications within area of control	<p>Task modifications within area of control may include but are not limited to:</p> <ul style="list-style-type: none"> • changes to frequency, duration, number of objects handled • route selected • seeking assistance as appropriate • housekeeping to minimise obstacles
Assessment of risks and evaluation of control options according to the hierarchy of control	<p>Assessment of risks and evaluation of control options according to the hierarchy of control is carried out in consultation with others as required by workplace arrangements and regulatory requirements for risk assessment and control</p>

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP1004A Prepare basic mixes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to combine ingredients and additives in the correct quantities and to operate mixing and blending equipment to prepare basic mixes.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a variety of food processing operations.</p> <p>It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of mixing equipment.</p> <p>Basic mixes include mixes made using pre-mix ingredients and/or where the knowledge of ingredient sequencing and ingredient characteristics is minimal.</p> <p>Where a detailed understanding of ingredient addition methods and sequencing is required it may be more appropriate to use FDFOP2028A Operate a mixing or blending process</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for mixing/blending	1.1. Materials are confirmed and available to meet production requirements 1.2. Cleaning requirements and status are identified and confirmed 1.3. Processing/operating parameters for mixing/blending are entered as required to meet production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the mixing/blending process	2.1. Ingredients are delivered to the mixer in the required quantities to meet recipe specifications 2.2. The mixing/blending process is started and operated according to workplace procedures 2.3. Equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The mixing process is monitored to confirm that specifications are met 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines
3. Shut down the mixing/blending process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify mixing/blending requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, and confirming that equipment is clean, correctly configured for processing requirements and that all safety guards are in place and operational
- add/load materials in correct quantities and sequence (this typically involves manual addition)
- start and monitor the batching/mixing process to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification
- monitor supply and flow of ingredients to and from the batching/mixing process, such as visually inspecting quality of ingredients
- pace mixing/blending to meet production requirements
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow procedures to shut down and clean equipment within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use simple process control screens according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic operating principles of equipment used, such as main equipment components, status and purpose of guards, emergency stop, isolation and lockout controls,; equipment operating capacities and applications
- services required and action to take if services are not available
- the flow of the mixing process and the effect of mix preparation on downstream

REQUIRED SKILLS AND KNOWLEDGE

- processes
- ingredient handling requirements and shelf-life/coding
- quality characteristics required of ingredients used
- required attributes of the mixed/blended output, such as visual appearance of the mix
- the effect of the mixing/blending parameters, such as length of mix time on mixing outcome
- contamination/food safety risks associated with the process and related control measures, including product compatibility and cross-contamination risks, and associated cleaning requirements
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, such as reporting to appropriate personnel
- procedures and responsibility for reporting production and performance information
- occupational health and safety (OHS) hazards and controls
- shutdown and cleaning procedures, including isolation, lock out and tag out procedures and responsibilities
- environmental issues and controls, including waste/rework collection and handling procedures related to the process
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare and apply ingredients according to mixing procedures • conduct pre-start checks on equipment used for mixing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch/recipe instructions • specifications, control points and processing parameters • mixing/blending process equipment, services and related storage facilities as required • ingredients and additives required for the mixing/blending process • sampling schedules and test procedures and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required • items of equipment to be operated and relevant materials, consumables and services • workplace records as required • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • Specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Mixing/blending equipment	<p>Mixing/blending equipment may include:</p> <ul style="list-style-type: none"> • measuring and weighing equipment, such as scales, load cells, dosing equipment, mixers, pumps, and agitators <p>Common mixer types include:</p> <ul style="list-style-type: none"> • ribbon and vertical screw mixers/conveyors
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • bulk and non-bulk ingredients and additives
Ingredient addition	Ingredient addition is typically manual
Operation of equipment and processes	Operation of equipment and processes may require:

RANGE STATEMENT	
	<ul style="list-style-type: none"> the use of simple process control panels
Services	<p>Services are appropriate to the process to be operated. Typical examples include:</p> <ul style="list-style-type: none"> power compressed and instrumentation air
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1005A Operate basic equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to use equipment requiring limited application of equipment and process knowledge and limited equipment adjustment.
------------------------	--

Application of the Unit

Application of the unit	This unit is generic and should be customised for a given piece of equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Follow workplace procedures to operate equipment	<p>1.1. Checks are conducted to confirm equipment is ready and safe to operate</p> <p>1.2. Operating procedures are followed to start and operate equipment to achieve required outcome</p>
2. Monitor and complete equipment operation	<p>2.1. Equipment is monitored to identify variation in operating conditions</p> <p>2.2. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.3. Equipment is shut down according to workplace procedure</p> <p>2.4. The work area is maintained according to housekeeping standards</p> <p>2.5. Work is conducted in accordance with workplace environmental guidelines</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information on equipment operating requirements and procedures
- select, fit and use personal protective clothing and/or equipment
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, and confirming that equipment is clean and that all safety guards are in place and operational
- start and operate equipment according to procedure
- monitor the output of equipment operation against requirements
- take corrective action in response to out-of-specification results
- shut down and clean equipment as required
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- maintain work area to meet housekeeping standards
- use basic process control screens and panels according to enterprise procedures
- complete workplace records according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic operating principles of equipment used, such as main equipment components, status and purpose of guards, emergency stop, isolation and lockout controls, equipment operating capacities and applications
- services required and action to take if services are not available
- quality requirements of materials/consumables used and the effect of variation on outputs
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- contamination/food safety risks associated with equipment operation and related control measures
- common causes of variation and corrective action required

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• occupational health and safety (OHS) hazards and controls• shutdown and cleaning procedures, including isolation, lock out and tag out procedures and responsibilities• environmental issues and controls relevant to equipment operation, including waste collection and handling procedures related to the process• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• recording procedures and responsibilities where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • check equipment readiness for use • operate and monitor equipment to achieve required quality outcomes • take action in response to typical faults and inconsistencies • apply safe work practices • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • item of equipment to be operated and relevant materials, consumables and services • workplace records as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements. When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specification • production schedules • labels and codes • safety signs and symbols • materials safety data sheets (MSDS) • standard forms • verbal messages • requests or instructions
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of simple operating panels
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1006A Monitor process operation

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to monitor the operation of equipment used in a production process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for monitoring that equipment is operating according to standard operating procedures. Monitoring typically includes visual inspection and checking and replenishing of consumables.</p> <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor equipment operation	1.1. Equipment is inspected and monitored to confirm safety and operating condition 1.2. The process is monitored to confirm performance is maintained within specification 1.3. Materials and consumable levels are maintained as required 1.4. Workplace records are maintained in accordance with workplace requirements 1.5. Work is conducted in accordance with workplace environmental guidelines 1.6. The work area is maintained according to housekeeping standards
2. Identify and respond to non-conformance	2.1. Out-of-specification product, process and equipment performance is identified rectified and/or reported according to workplace procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- select, fit and use appropriate personal protection clothing and/or equipment
- monitor the process and equipment operation to maintain the process within the required parameters, such as conducting visual inspections and basic tests
- monitor supply and flow of materials and/or consumables to and from the process, such as replenishing material inputs and removing processed materials or product
- identify and take action to correct out-of-specification results within level of responsibility (where corrective action is outside level of responsibility, report to appropriate personnel)
- maintain work area to meet housekeeping standards
- sort, collect, treat, recycle or dispose of waste according to enterprise procedures
- demonstrate shutdown and cleaning sequence according to enterprise procedures
- record workplace information according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose of equipment
- required output and quality requirements to be met by the process
- basic operating principles of equipment used, such as main equipment components, status and purpose of guards, and emergency stop, isolation and lockout controls, and where required, the operating features of the control panel and the relationship between control panel functions and the physical equipment
- common causes of faults or unacceptable performance and action required within level of responsibility
- procedures and responsibility for reporting problems
- occupational health and safety (OHS) hazards and controls
- waste handling requirements and procedures related to process operation
- shutdown and cleaning procedure where relevant
- recording system and responsibilities where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify requirements for safe and compliant operation of equipment • identify common non-compliances • report non-compliances • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on safe work practices • production schedules and specifications • MSDS where appropriate • production/packaging equipment and related services • materials and consumables as required • relevant OHS clothing and equipment • housekeeping standards and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules • labels and codes • safety signs and symbols • materials safety data sheets (MSDS) • standard forms • verbal messages • requests or instructions
Process operation and monitoring functions	<p>Process operation and monitoring functions may involve:</p> <ul style="list-style-type: none"> • the use of a computer keyboard or control panel

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1007A Participate effectively in a workplace environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to participate effectively in a workplace environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in any work environment and serves as an introduction to the responsibilities of the worker and the products and processes of the company.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Carry out responsibilities in accordance with workplace policies and procedures	1.1. Information on conditions of employment, company policies and procedures is identified 1.2. Policies and procedures are applied when carrying out work role 1.3. Work is conducted in accordance with workplace environmental guidelines
2. Identify and locate company product and processes	2.1. Company product range is identified 2.2. Production/packaging stages and processes carried out on site are identified and located

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify and access information on conditions of employment and workplace policies and procedures (information may be provided in print, audio-visual and/or verbal formats)
- locate workplace amenities and facilities relevant to work responsibilities
- identify and locate materials/storage areas in the workplace, relevant to work role, such as locating tank farms and other bulk storage locations and identifying special storage conditions (e.g. hazardous goods and temperature controlled stores areas)
- identify and locate production and packing processes/main work areas in the workplace
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- workplace structure and key personnel
- rights and responsibilities of employees as defined in employment conditions
- company policies and procedures relating to work responsibilities, including areas covered by legislation and related responsibilities
- appropriate personal conduct in a work area, including minimum clothing and personal hygiene standards when entering and moving around a food processing area in order to protect both employees and product safety, and behaving appropriately towards others in the work area
- industrial representation arrangements
- site security arrangements, including responsibility to report when coming on and off site
- site layout, including main facilities, such as canteens, parking areas, storage areas, processing and packing areas and location of emergency exits and assembly areas
- the main products/product range produced in the workplace
- stages and processes used to manufacture and package products
- personal reporting roles and responsibilities

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • identify expectations and responsibilities of the work role • identify organisational products and processes • identify location of operations.
Context of and specific resources for assessment	Assessment must occur in a real workplace where the assessee has access to: <ul style="list-style-type: none"> • advice on work roles and responsibilities • advice on workplace policies, codes of practice, procedures, structure and personnel • advice on conditions of employment and entitlements • site maps • workplace access.
Method of assessment	This unit should be assessed together with other units of competency relevant to the work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out in accordance with company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements. When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP</p>
Company policies and procedures	<p>Company policies and procedures referred to are additional to those covered by OHS, quality, food safety and environmental competency standards. They include:</p> <ul style="list-style-type: none"> • codes of practice and general employment policies and procedures in areas, such as sexual harassment • equal employment opportunity (EEO)/affirmative action • anti-discrimination • racial vilification • workplace bullying
Conditions of employment	<p>Conditions of employment typically include:</p> <ul style="list-style-type: none"> • pay and conditions • leave arrangements • reporting and timekeeping responsibilities • terms of employment, including permanent, casual and probationary periods • disciplinary procedures • staff facilities and amenities
Key personnel	<p>Key personnel may include but are not limited to:</p> <ul style="list-style-type: none"> • human resource personnel responsible for recruitment, training, pay and conditions issues • relevant site and operations managers • supervisors/team leaders

RANGE STATEMENT	
	<ul style="list-style-type: none"> • industrial/work area representatives

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1008A Take and record basic measurements

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to use basic measuring equipment and devices, read and record results.
------------------------	---

Application of the Unit

Application of the unit	This unit is appropriate where simple tests involve automated measuring devices.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify measurement requirements	1.1. Purpose of measuring is identified 1.2. Measuring requirements, including frequency and accuracy range, are identified 1.3. Measuring equipment is available and fit for purpose
2. Take measurements	2.1. Measurements are performed to requirements and according to workplace procedures 2.2. Measurement results are checked for accuracy 2.3. Non-standard or out-of-range results are identified and reported to appropriate personnel 2.4. Results of measurements are recorded in the required format

Required Skills and Knowledge

Required skills

Ability to:

- access workplace information on measurement requirements and procedures relating to own work, including information about the types of measurements to be carried out, the equipment/devices to be used, frequency of measurement and related recording requirements
- locate measuring equipment/device and confirm that it is suitable for use (this will vary depending on the nature of the equipment/device), such as taring scales, and confirming calibration of devices (e.g. pH meters)
- locate materials/items to be measured
- follow procedures to conduct measurements
- determine and interpret measurement results, including checking measurement accuracy, and where results are out of the required range, reporting to appropriate personnel and following instructions on corrective action
- record results as required in the appropriate format, such as completing log sheets
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose of measuring as applied to work responsibilities, and related measuring equipment and units of measurement, including the required accuracy of the measurement and the capability/accuracy level of equipment used
- measuring equipment/device preparation requirements and purpose, including calibration requirements and responsibilities for maintaining accurate measuring equipment/devices (at this level, responsibility may involve confirming calibration by following defined check methods)
- occupational health and safety (OHS) hazards associated with using the measuring equipment/device and related safe operating procedures
- typical/required range for measurement results
- common factors and conditions that could affect the measurement result
- procedures to follow where measurements are out of range, such as involves repeating the measurement one or more times
- consequences of measurements that are out of range
- responsibilities to report measurement information

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify purpose of measuring • use a variety of basic measuring equipment • identify and report inconsistencies • record measurement as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures and instructions relating to measuring requirements • measuring equipment/devices • materials/items to be measured • recording and reporting system.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2061A Use numerical applications in the workplace.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, regulatory and licensing requirements, legislative requirements, site licences and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules • standard forms • written or verbal instructions
Basic measuring equipment	<p>Basic measuring equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • scales • gauges and meters <p>Examples of typical measuring devices include:</p> <ul style="list-style-type: none"> • refractometers (hand-held) • temperature probes/thermometers • pH probes/meters

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1009A Follow work procedures to maintain quality

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to follow basic quality assurance practices related to monitoring quality where work involves routine manual processes and/or operation of simple automated equipment.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing environment. It typically targets the production worker responsible for following quality procedures in own work operations.</p> <p>Where numeracy skills beyond those identified to conduct basic quality checks are required, FDFOP2061A Use numerical applications in the workplace or FDFOP1008A Take and record basic measurements, should be selected.</p> <p>Note that this unit does not apply to the pharmaceutical industry. Refer to FDFPH1001A Follow work procedures to maintain Good Manufacturing Practice.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor quality of work outcome	1.1. Quality requirements are identified 1.2. Inputs are inspected to confirm capability to meet quality requirements 1.3. Work is conducted according to work procedures 1.4. Work is conducted in accordance with workplace environmental guidelines
2. Identify and report unacceptable inputs and/or outputs	2.1. Work area, materials, processes and product are routinely checked to ensure compliance with quality requirements 2.2. Unacceptable quality is identified and corrective action is taken within the level of responsibility to maintain quality standards 2.3. Quality variation is reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access and apply workplace information on quality requirements for own work
- identify control points or inspection points for own work and related methods used to monitor quality
- carry out relevant checks and inspections as required, such as checks and inspections on equipment, materials, product, packaging consumables and processing conditions relevant to own work
- identify and respond to out-of-specification or unacceptable inputs and/or outputs, such as making adjustments within level of responsibility and/or reporting
- maintain quality of own work
- conduct tests related to work responsibilities according to enterprise procedures
- record quality data in required format according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- quality policy, procedures and responsibilities
- quality personnel and their respective responsibilities, such as internal personnel and external auditors
- requirements of internal and external customers
- sources of advice on quality requirements for own work
- control points for own work, including the purpose of the control point, the risk if not controlled and the method of control where relevant
- monitoring, inspection and checking procedures relating to process control requirements
- evidence of out-of-specification or unacceptable performance
- procedures for responding to out-of-specification or unacceptable performance/outcomes
- responsibilities for reporting and recording quality information
- sampling and test procedures where relevant
- recording requirements and responsibilities where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify quality requirements • conduct work according to quality standards • monitor quality and identify and act on non-compliances.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • quality policy, system and procedures, including company codes of practice/ GMP • work tasks and responsibilities • workplace information relating to work tasks, such as specifications, work instruction and other advice on quality requirements and procedures • systems for recording quality information as required • reporting system and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFFS1001A Follow work procedures to maintain food safety.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing and regulatory requirements, legislative requirements and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • quality specifications • food safety and/or Good Manufacturing Practice (GMP) codes • log sheets • basic data • standard forms • written or verbal instruction
Responsibility for monitoring quality	<p>Responsibility for monitoring quality relates to immediate work responsibilities and may require:</p> <ul style="list-style-type: none"> • visual inspections and checks, including using basic counting skills
Monitoring	Monitoring typically involves visual inspection or checks at control points. Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) control points
Out-of-specification or unacceptable outcomes	At this level, responding to out-of-specification or unacceptable outcomes typically involves exercising judgment within clearly defined parameters and reporting/referring to others

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP1010A Communicate workplace information

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to gather, convey and receive workplace information and to interact with others at work.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic communication skills to support work practices.</p> <p>Work practices may include communication of basic numeric information.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Exchange verbal information	1.1. Information requirements are identified 1.2. Questions are asked to seek or clarify information 1.3. Interactive skills are used to communicate effectively with others 1.4. Information is provided in a timely and appropriate form
2. Locate and use workplace information	2.1. Sources of workplace information are located 2.2. Information is used to carry out work responsibilities

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify and access information to undertake work responsibilities
- seek information from people in the workplace to support work roles and responsibilities
- ascertain or clarify information requirements by asking questions
- structure and present information in a clear, logical sequence to meet work requirements
- demonstrate interactive communication processes
- respond to information requests in a timely manner
- use appropriate information technology as required in the workplace
- interact with others to achieve agreed outcomes
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- communication channels and forums including consultative arrangements established in the workplace
- common colloquial and technical terms relating to work function
- sources of information and advice relating to own job
- methods used to access information, which may involve basic keyboard/control panel skills
- interactive techniques, including active listening, questioning, seeking and responding to feedback, and interacting effectively with others
- recognition of different personal communication styles
- personal reporting roles and responsibilities

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • exchange work-related information • ask questions to inform work practice • apply work information to work practice.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • advice on work roles and responsibilities • information technology as appropriate to the workplace • opportunities to interact with others using typical workplace communication processes • typical workplace information and systems.
Method of assessment	This unit should be assessed together with other units of competency relevant to the work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules • labels and codes • safety signs and symbols • materials safety data sheets (MSDS) • standard forms • verbal messages • requests or instructions
Information to be accessed/conveyed	<p>Information to be accessed/conveyed may be:</p> <ul style="list-style-type: none"> • verbal, written and/or screen-based and may include symbols, charts, signs, pictures, numbers and diagrams as relevant to own work
Typical subjects for communication	<p>Typical subjects for communication include:</p> <ul style="list-style-type: none"> • work functions • company policies and codes of practice • rights and responsibilities • employment conditions and entitlements
Workplace personnel	<p>Workplace personnel may include:</p> <ul style="list-style-type: none"> • people from diverse cultural backgrounds
Interactive communication processes	<p>Interactive communication processes include:</p> <ul style="list-style-type: none"> • active listening • turn taking • questioning • tolerating the views of others • seeking and providing constructive feedback

Unit Sector(s)

Unit sector	Operational
-------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFOP2001A Work effectively in the food processing industry

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to work effectively in the food processing industry by applying an understanding of the structure of the industry, workplace policies and procedures, and conditions relevant to their employment.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in any food processing work environment and serves as an introduction to the types of products and processes used in the company and conditions relevant to their work. The unit can be contextualised to a specific sector and work environment but must include production processes and flow of product from raw materials through to distribution.</p> <p>This unit can be used as part of an employee's induction or preemployment training program.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Overview the food processing industry	1.1. Sectors of the food processing industry are identified 1.2. Key sector representatives and their roles are identified 1.3. Relevant legislation and guidelines common to employment in the sector are identified 1.4. Types of employment in the food industries are identified and key responsibilities described
2. Identify key production processes and supply chains	2.1. Raw materials used in the workplace and their source are identified 2.2. Range of products produced in the workplace are identified 2.3. Workplace production processes for converting materials into products are identified 2.4. Supply chains for products are identified
3. Carry out work responsibilities according to policies and procedures	3.1. Information on conditions of employment, company policies and procedures is identified 3.2. Policies and procedures are applied when carrying out work role 3.3. Rights, responsibilities and legal obligations are identified 3.4. Key personnel and their roles are identified. 3.5. Employability skills required for working effectively are identified and applied 3.6. Consequences of not following workplace environmental and safety policies and practices are identified
4. Take responsibility for own skill development	4.1. Skills required for work role are identified and own ability assessed to determine learning needs 4.2. Opportunities for skill development are identified and participated in 4.3. Responsibility is taken for own work tasks and role 4.4. Own work is monitored against workplace standards and areas for improvement identified and acted upon 4.5. Problem solving strategies are used to address problems, inconsistencies or concerns when fulfilling work role

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify and access information on conditions of employment and workplace policies and procedures (information may be provided in print, audio-visual and/or verbal formats)
- identify and locate materials/storage areas in the work place, relevant to work role, such as locating tank farms and other bulk storage locations and identifying special storage conditions (e.g. hazardous goods and temperature controlled stores areas)
- identify and locate production and packing processes/main work areas in the workplace
- model appropriate behaviour when interacting with others and moving around the workplace
- explain employee's responsibilities
- explain the dispute resolution procedures in the workplace
- explain the flow of product from receipt to sale in own workplace
- explain the nature and role of work instructions and standard operating procedures (SOPs)
- explain the principles of equal employment opportunity (EEO) and policies to prevent sexual harassment
- follow relevant workplace policies
- identify and explain the relevance of occupational health and safety (OHS) and regulatory requirements for food industry employees
- identify and explain workplace employment conditions
- identify relevant workplace requirements, policies and procedures and explain their implications for trainees
- list the markets where the company's products are distributed
- name the products produced in own workplace
- outline enterprise ethical standards and requirements for interacting with other employees and staff
- relate to others in an effective and non-discriminatory way showing mutual respect
- apply environmental practices
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of:

- workplace structure and key personnel
- rights and responsibilities of employees as defined in employment conditions
- company policies and procedures relating to work responsibilities, including areas covered by legislation and related responsibilities
- appropriate personal conduct in a work area, including minimum clothing and personal hygiene standards when entering and moving around a food processing area in order to protect both employees and product safety, and behaving appropriately towards others in the work area
- industrial representation arrangements
- site security arrangements, including responsibility to report when coming on and off site
- site layout, including main facilities, such as canteens, parking areas, storage areas, processing and packing areas and location of emergency exits and assembly areas
- the main products/product range produced in the workplace
- stages and processes used to manufacture and package products
- personal reporting roles and responsibilities

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • recognise key industry sectors • identify workplace practices and processes • describe concepts of supply chains • identify relevant legislation Identify expectations and responsibilities of the work role • identify organisational products and processes • identify location of operations.
Context of and specific resources for assessment	Assessment must occur in a real workplace where the assessee has access to: <ul style="list-style-type: none"> • advice on work roles and responsibilities • advice on workplace policies, codes of practice, procedures, structure and personnel • advice on conditions of employment and entitlements • site maps • workplace access.
Method of assessment	This unit should be assessed together with other units of competency relevant to the work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out in accordance with company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements.</p>
Company policies and procedures	<p>Company policies and procedures referred to are additional to those covered by OHS, quality, food safety and environmental competency standards. They include:</p> <ul style="list-style-type: none"> • codes of practice and general employment policies and procedures in areas, such as sexual harassment • EEO/affirmative action • anti-discrimination • racial vilification • workplace bullying
Conditions of employment	<p>Conditions of employment typically include:</p> <ul style="list-style-type: none"> • pay and conditions • leave arrangements • reporting and timekeeping responsibilities • terms of employment, including permanent, casual and probationary periods • disciplinary procedures • staff facilities and amenities
Key personnel	<p>Key personnel may include but are not limited to:</p> <ul style="list-style-type: none"> • human resource personnel responsible for recruitment, training, pay and conditions issues • relevant site and operations managers • supervisors/team leaders • industrial/work area representatives
Employability skills	<p>Employability skills include:</p> <ul style="list-style-type: none"> • ability to work in teams

RANGE STATEMENT	
	<ul style="list-style-type: none"> • ability to solve problems • ability to communicate in the workplace • using initiative and enterprise • using technology • ability to plan and organise • ability to manage self • ability to learn work-related skills and knowledge
Supply chains	<p>Supply chains refer to:</p> <ul style="list-style-type: none"> • concept of product flow from raw materials to production, distribution, marketing and sales • customers and suppliers
Problem solving strategies	<p>Problem solving strategies include:</p> <ul style="list-style-type: none"> • asking questions • reporting or referring to appropriate personnel • asking for help or support • referring to standard operating procedures • consideration of options • accessing information

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

FDFOP2002A Inspect and sort materials and product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to inspect and sort product and incoming materials ready for processing.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a production environment within the food processing industry. It typically targets the production worker responsible for inspecting and sorting materials and product in order to support production operations. Inspection at this level is typically limited to visual inspection.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Inspect materials to confirm fitness for use	<p>1.1.Type and quality requirements of materials are confirmed</p> <p>1.2.Materials are conveyed or transferred to required locations</p>
2. Sort materials	<p>2.1.Materials are inspected to confirm quality requirements are met</p> <p>2.2.Materials are sorted as required to meet production requirements</p> <p>2.3.Unacceptable quality is identified and reported according to workplace reporting requirements</p> <p>2.4.The work area is maintained according to housekeeping standards</p> <p>2.5.Work is conducted in accordance with workplace environmental guidelines</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information on materials specification/quality requirements
- select, fit and use personal protective clothing and/or equipment
- inspect quality of materials to confirm compliance with quality specifications, such as:
 - product type and quantity
 - product condition, such as identifying any bruising, discolouration or other damage, confirming product is clean, and checking size and weight
- identify out-of-specification or non-conforming product and follow procedures to separate unacceptable product
- respond to and/or report equipment failure within level of responsibility
- maintain work area to meet housekeeping standards
- complete workplace records as required according to enterprise procedures
- demonstrate procedures for operating materials transfer equipment as required according to enterprise procedures
- wash/clean raw materials or product according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and standards to be met by the inspection and sorting process, including criteria and specifications as they apply to inspection and sorting requirements
- the relationship between visual inspection and sorting and other inspection procedures, such as those that may be conducted by a laboratory or at subsequent processing stages
- typical causes of unacceptable or out-of-specification product, including causes of product damage that can occur prior to arrival at the plant and as part of the handling process
- the stages that occur in the inspection and sorting process and their effect on product, such as in-line cleaning or conditioning and product or materials transfer stages
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems

REQUIRED SKILLS AND KNOWLEDGE

- contamination/food safety risks associated with the sorting process and related control measures
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to equipment operation, including waste collection and handling procedures related to the process
- basic operating principles of equipment used, where relevant, including main equipment components, status and purpose of guards, emergency stop, isolation and lockout controls, equipment operating capacities and applications
- services required and action to take if services are not available
- recording procedures and responsibilities where relevant
- washing/cleaning requirements and standards where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • recognise and act on materials or product that does not comply with quality standards • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures. including advice on safe work practices, food safety, quality and environmental requirements • production schedule and batch instructions • quality criteria, specifications and inspection procedures • materials handling system and product to be inspected • related inspection equipment as required • documentation and recording requirements and procedures • workplace records as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP1005A Operate basic equipment.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where</p>

EVIDENCE GUIDE

	possible, over a number of assessment activities.
--	---

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures (SOPs) • specifications • production schedules • labels and codes • safety signs and symbols • photos or other visual representations of acceptable quality • standard forms • verbal messages • requests or instructions
Materials transfer equipment	<p>Materials transfer equipment may be mechanical or pneumatic, and may include:</p> <ul style="list-style-type: none"> • conveyors • flumes pumped systems
Product inspection and sorting	<p>Product inspection and sorting may include:</p> <ul style="list-style-type: none"> • sizing • quality inspection • sorting/grading <p>Aspects of these processes may be:</p> <ul style="list-style-type: none"> • automated or done using equipment, such as sieves <p>Related processes may include:</p> <ul style="list-style-type: none"> • trimming or removal of unacceptable product

RANGE STATEMENT	
Related processes	Related processes may include: <ul style="list-style-type: none"> washing/cleaning product

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2003A Clean equipment in place

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prepare process equipment for cleaning in place (CIP) or in-line.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to food processing equipment that is fixed in place and cannot be moved to a cleaning station. It requires the operator to initiate, monitor and control variables during cleaning. Where this is not a requirement of a CIP system, this unit may not be relevant.</p> <p>Where the operator is primarily responsible for cleaning and/or where they require a more detailed knowledge of cleaning and sanitation processes to carry out cleaning responsibilities, FDFOP2004A Clean and sanitise equipment, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for cleaning	1.1. Chemical stocks are available to meet cleaning and sanitation requirements 1.2. Services are confirmed as available and ready for operation 1.3. Equipment shutdown is planned and equipment is taken off-line for cleaning 1.4. Equipment and related valves and pipework are configured to confirm readiness for cleaning 1.5. The plant is set for the cleaning cycle
2. Operate and monitor the cleaning process	2.1. The cleaning cycle is undertaken according to company policies and procedures 2.2. The cleaning process is monitored to confirm cleaning meets company requirements 2.3. Cleaning data is recorded according to workplace reporting requirements 2.4. Out-of-specification process and equipment performance is identified, rectified and/or reported
3. Dispose of waste and return plant to operating condition	3.1. Cleaning chemicals are flushed from plant and disposed of according to company policies and procedures 3.2. Work is conducted according to environmental requirements 3.3. Plant is set up to meet operational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information, such as the cleaning schedule to identify cleaning requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- handle and prepare cleaning and sanitation agents safely, including following correct handling and preparation procedures and use of appropriate protective clothing and equipment as required
- schedule cleaning and/or liaise with related work areas to take equipment and area off-line with minimal disruption to production
- prepare equipment and area for cleaning, such as rendering equipment safe to clean, removing obstacles and unnecessary equipment, correctly positioning equipment (e.g. valves, pipes, vents and taps), selecting appropriate cleaning cycle, removing waste and/or dismantling equipment
- clean equipment according to cleaning process cycle and procedures, such as starting up and operating the CIP process in both automatic and manual modes
- monitor the process and equipment operation to maintain the cleaning process within the required parameters
- locate emergency stop functions on equipment
- return plant to operating order
- return area to working order
- take corrective action in response to out-of-specification results
- advise affected work areas of cleaning schedule and progress
- maintain and store chemicals and related equipment as required
- carry out relevant checks and inspections to confirm effectiveness of cleaning
- sort, collect, treat, recycle or dispose of waste
- record cleaning information
- maintain work area to meet housekeeping standards
- conduct routine maintenance according to enterprise procedures
- take samples and conduct tests according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE***Knowledge of:***

- purpose and basic principles of CIP, including the use and functions of caustic and acid solutions, and cleaning sequence and stages as required in the workplace
- purpose and use of cleaning equipment and chemicals used
- terminology relating to the chemical solutions used
- safe work procedures, including appropriate signage of cleaning activities and safe handling and storage of cleaners and sanitisers used
- purpose and limitations of protective clothing and equipment
- cleaning and sanitation requirements, including different levels of cleaning requirements depending on the reason for cleaning
- characteristics of cleaning and sanitising chemicals used, including basic composition as well as compatibility of chemicals with types of equipment
- methods used to render equipment safe to clean, including the status and purpose of equipment guards, relevant lock out/tagout and isolation procedures
- equipment settings required for cleaning and for operating respectively
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- inspection points for cleaning and sanitation
- consequences of contamination of process flows by cleaning solutions and related safeguards
- types of waste generated by both the production and the cleaning process and related collection, treatment and disposal requirements
- environmental consequences of incorrect cleaning waste disposal procedures
- requirements to liaise/advise related work areas
- reporting and recording systems
- routine maintenance procedures where relevant
- sampling methods and test procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- shut down equipment and prepare for cleaning
- prepare and use chemicals according to safe work requirements
- clean equipment to meet work standards
- monitor cleaning and report or address any non-compliances
- flush equipment and dispose of waste according to environmental guidelines
- complete required documentation
- apply safe work practices and identify OHS hazards and controls
- apply food safety procedures.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- cleaning procedures and related advice on equipment operation, including advice on safe work practices and environmental requirements
- personal protective clothing and equipment
- equipment to be cleaned, and related CIP system
- chemicals and/or automated chemical addition system
- services as required
- MSDS where appropriate
- cleaning schedule or advice and related standard operating procedures
- housekeeping standards and procedures
- advice on environmental management issues relevant to work responsibilities
- workplace information recording systems,

EVIDENCE GUIDE	
	<p>requirements and procedures</p> <ul style="list-style-type: none"> • sampling and testing schedules and procedures as relevant to cleaning requirements in the workplace.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out in accordance with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements. When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production cleaning schedules and instructions • signs and symbols • materials safety data sheets (MSDS) • manufacturers' advice • standard forms and reports
Dosing of cleaning chemicals	Dosing of cleaning chemicals may be: <ul style="list-style-type: none"> • automatically controlled or manually dosed
Services	Services may include: <ul style="list-style-type: none"> • power • water • Steam • compressed and instrumentation air
Testing	Where tests are conducted as part of operation, a typical requirement is measurement of pH
Monitoring the process	Monitoring the process is dependent on the nature of equipment. Examples of monitoring include: <ul style="list-style-type: none"> • chemical strength • cycle time • temperatures • time

RANGE STATEMENT	
	<ul style="list-style-type: none"> • storage tank levels • condensate quality
Operation and monitoring of equipment and processes	Operation and monitoring of equipment and processes typically requires the use of control panels and systems

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2004A Clean and sanitise equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers cleaning, sanitation and related procedures for food processing production equipment.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit does not cover cleaning in place (CIP) processes. Where this is a required competency, select <i>FDFOP2003A</i> Clean equipment in place.</p> <p>Basic cleaning and sanitation procedures are covered in operational units. This unit should be selected where the operator is primarily responsible for cleaning and/or where they require a more detailed knowledge of cleaning and sanitation processes to carry out cleaning responsibilities. This unit applies to both wet and dry cleaning methods.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for cleaning	1.1.Cleaning/sanitising agents and services are available and ready for use 1.2.Equipment is cleared of product and/or packaging consumables in preparation for cleaning 1.3.Equipment is rendered safe to clean
2. Clean and sanitise equipment to meet workplace requirements	2.1.Equipment is cleaned and sanitised according to workplace procedure and requirements 2.2.Equipment is inspected to confirm operating condition and cleanliness 2.3.Unacceptable equipment condition is identified and reported according to workplace procedures 2.4.Cleaning equipment and chemicals are stored according to workplace procedure 2.5.Waste from cleaning process is disposed of according to workplace procedures 2.6.Work is conducted in accordance with workplace environmental guidelines 2.7.Equipment is restored to operating order

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information, such as the cleaning schedule to identify cleaning requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary cleaning and sanitising equipment and services
- select and prepare cleaners and sanitisers as required according to workplace procedures
- prepare equipment for cleaning, such as rendering equipment safe to clean, clearing product and waste materials, covering motors and instrumentation where steam or water hoses are used, and simple dismantling of equipment parts
- advise any affected work areas/operators of cleaning progress to coordinate timely completion with minimal disruption to production
- clean and sanitise equipment as required according to workplace procedures and cleaning schedule
- return equipment to operating order (this may involve basic assembly of equipment parts)
- inspect equipment to identify equipment condition and cleanliness
- locate emergency stop functions on equipment
- report and/or correct unacceptable equipment condition
- maintain housekeeping standards
- prepare cleaners and sanitisers as required
- store cleaners, sanitisers and related equipment as required
- carry out relevant checks and inspections
- maintain work area to meet housekeeping standards
- conduct routine maintenance according to enterprise procedures
- take samples and conduct tests according to enterprise procedures
- record cleaning and sanitation information according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the purpose of cleaning and sanitation and importance in maintaining food safety
- functions of cleaners, sanitisers and related equipment

REQUIRED SKILLS AND KNOWLEDGE

- safe work procedures, including appropriate signage of cleaning activities, safe handling and storage of cleaners and sanitisers used, safety when using cleaning methods, such as hot water and steam hoses, and status and purpose of safety guards
- purpose and limitations of protective clothing and equipment
- cleaning and sanitation requirements relating to work responsibilities, including the need for different levels of cleaning where relevant
- procedures for preparing cleaners and sanitizers as required
- cleaning method/s to be followed relating to work responsibilities
- other work areas/operators who need to be consulted/advised on timing of cleaning
- methods used to render equipment safe to clean, including understanding the status and purpose of equipment guards, relevant lock out/tagout and isolation procedures and related equipment settings for both cleaning and operating as required
- procedures for conducting cleaning and sanitising
- types of waste generated by the cleaning process and related collection, treatment and disposal requirements
- potential environmental impact of incorrect waste handling
- inspection, cleaning and storage requirements of cleaning equipment used
- inspection points and methods for confirming the effectiveness of cleaning and sanitation, including visual inspection, and where required, recording of cleaning conducted
- inspection requirements to confirm equipment condition, including acceptable equipment condition, ability to identify faulty or unacceptable equipment and take required corrective action
- recording requirements and responsibilities
- routine maintenance procedures where relevant
- sampling methods and test procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- prepare equipment for cleaning
- prepare and use chemicals according to safe work requirements
- clean and sanitise equipment to meet work standards
- monitor cleaning and report or address any non-compliances
- dispose of waste according to environmental guidelines
- complete required documentation
- apply safe work practices and identify OHS hazards and controls
- apply food safety procedures.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- cleaning procedures and related advice on equipment operation, including advice on safe work practices and environmental requirements
- personal protective clothing and equipment
- cleaning schedule and related procedures, including OHS advice
- equipment/items to be cleaned
- chemicals, cleaning equipment and services as required
- MSDS where appropriate
- housekeeping standards and procedures
- cleaning/sanitising information recording system and procedures
- advice on environmental management issues relevant to work responsibilities.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2011A Conduct routine maintenance• FDFOP2013A Apply sampling procedures• MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out in accordance with company procedures, licensing requirements, legislative requirements, and industrial awards and agreements. When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production and cleaning schedules • labels and codes • safety signs and symbols • materials safety data sheets (MSDS) • standard forms • written or verbal instruction
Cleaning and sanitising chemicals	<p>Cleaning and sanitising chemicals may be:</p> <ul style="list-style-type: none"> • pre-mixed or manually mixed
Preparing/restoring equipment to operating order	<p>Preparing/restoring equipment to operating order may involve:</p> <ul style="list-style-type: none"> • simple dismantling and reassembling of equipment parts • basic isolation • covering of motors and instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • steam • compressed and instrumentation air
Inspecting cleaning effectiveness	<p>Inspecting cleaning effectiveness typically</p>

RANGE STATEMENT

	involves:
	<ul style="list-style-type: none"> • carrying out a visual inspection

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2005A Work in a socially diverse environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to work in a socially diverse environment, including the development and application of cultural awareness required to interact effectively with people from diverse backgrounds.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit is based on the tourism and hospitality unit THHCOR2A Work in a socially diverse environment and the transport and distribution unit TDTG701A Work in a socially diverse environment.</p> <p>This unit involves the application of communication principles and problem solving techniques to facilitate work in a socially diverse environment.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Communicate with people from diverse backgrounds	1.1. People from all cultural groups are valued and treated with respect and sensitivity 1.2. Verbal and non-verbal communication takes account of cultural differences 1.3. Where language barriers exist, efforts are made to communicate through use of gestures or simple words in the other persons' language 1.4. Assistance from colleagues, specialist resources or outside organisations is obtained when required
2. Respond to cross-cultural misunderstandings	2.1. Issues which may cause conflict or misunderstanding in the workplace are identified 2.2. Difficulties are addressed with the appropriate people in the workplace 2.3. When difficulties or misunderstandings occur, possible cultural differences are considered 2.4. Efforts are made to resolve the misunderstanding, taking account of cultural considerations 2.5. Issues and problems that cannot be resolved are referred as required for follow up

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify and recognise cultural differences in the workplace
- apply understanding of cultural difference to communicate effectively to achieve work requirements, including selecting appropriate communication style to suit audience
- identify and respond to cross-cultural misunderstandings
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

Required knowledge

Knowledge of:

- principles of equal employment opportunity (EEO) and anti-discrimination legislation as they apply to company and employee rights and responsibilities in the workplace
- recognition of the different cultural groups in the workplace
- understanding of the basis of cultural difference, including behaviour or practices that can cause offence, and related strategies for interacting in ways that are culturally sensitive
- communication strategies and styles appropriate to diverse audiences related to the workplace

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • identify responsibilities according to the principles of anti-discrimination legislation • treat people from other cultures with respect and sensitivity • make efforts to communicate and understand others using verbal and non-verbal techniques • seek assistance when required to facilitate understanding • treat cross-cultural misunderstandings with sensitivity and act to resolve the matter with respect.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • advice on legal rights and responsibilities relating to anti-discrimination and EEO • related company policies and procedures • opportunities to interact with others using typical workplace communication processes.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation includes:</p> <ul style="list-style-type: none"> • anti-discrimination • EEO
People from diverse backgrounds	<p>People from diverse backgrounds may include:</p> <ul style="list-style-type: none"> • any person involved in or related to the work process, such as work colleagues, managers and external personnel
Cultural differences	<p>Cultural difference may include but is not limited to:</p> <ul style="list-style-type: none"> • race • special needs • disabilities • gender • marital status • sexual preference • age
Examples of cultural differences	<p>Examples of cultural differences may include but are not limited to:</p> <ul style="list-style-type: none"> • language spoken and related communication style • levels of formality/informality • personal grooming • family obligations • recognised holidays • customs

RANGE STATEMENT	
	<ul style="list-style-type: none"> • work ethic • product preferences
Outside organisations	<p>Outside organisations may include but are not limited to:</p> <ul style="list-style-type: none"> • interpretative services • diplomatic services • local cultural organisations • appropriate government agencies • educational institutions

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2006A Operate a bulk dry goods transfer process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to receive and/or transfer bulk raw materials (dry) to storage areas.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a food processing production environment. It typically targets the worker responsible for the operation and monitoring of a dry ingredients transfer process and associated equipment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare bulk materials transfer equipment and process for operation	1.1. Bulk storage locations, ingredient/materials holdings and capacities are identified 1.2. Actual to recorded holding levels are confirmed 1.3. The transfer system equipment is checked to confirm readiness for use 1.4. Transfer equipment settings and operating parameters are selected to meet safety and transfer requirements 1.5. Checks, tests or other materials/product clearance procedures are followed prior to transfer as required by workplace 1.6. Priorities for materials transfer are established to match intakes/transfers to storage capacity and production requirements
2. Transfer bulk materials	2.1. The transfer process is started and operated according to workplace procedures 2.2. The transfer process is monitored to confirm correct location selection, quantities and equipment settings 2.3. Bulk dry materials/product is transferred to the required location/storage facility 2.4. Workplace housekeeping standards are maintained 2.5. Work is conducted in accordance with workplace environmental guidelines 2.6. Workplace records are maintained according to workplace recording requirements
3. Complete transfer operations	3.1. Equipment settings are selected to complete transfer operation 3.2. In-flight product is purged from lines 3.3. Equipment is cleaned and prepared for further transfer 3.4. Information on the transfer operation is recorded according to workplace reporting requirements 3.5. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information relating to materials transfer requirements and priorities
- select, fit and use personal protective clothing and/or equipment
- use workplace records and systems to confirm storage facilities and capacities and determine appropriate routing of materials received (this typically involves use of computer-based systems), and where required, verifying by physically inspecting storage facilities
- plan and sequence transfer process to meet storage capacity and production requirements
- prepare equipment for materials transfer, such as confirming that equipment is clean, lines are purged, isolation or lockouts are cancelled as required, any scheduled maintenance has been completed and safety guards/equipment are correctly positioned
- carry out procedures to confirm bulk materials meet quality requirements as required by transfer process, such as conducting tests or getting clearance documentation from laboratory/quality personnel
- operate and monitor transfer process to confirm that correct quantities are transferred at the required times, to the required locations
- locate emergency stop functions on equipment
- respond to and/or report equipment failure within level of responsibility
- respond to and/or report evidence that bulk materials do not meet quality requirements
- complete the transfer operations, such as purging lines and selecting appropriate equipment/system settings
- complete records of product/materials transfer as required
- maintain work area to meet housekeeping standards
- use process control and scheduling systems, screens and panels according to enterprise procedures
- take and record product/materials samples and conduct tests according to enterprise procedures
- clean transfer equipment (this may require entry to confined spaces and where this is the case, appropriate certification requirements must also be met)
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none"> • work cooperatively within a culturally diverse workforce |
|--|

Required knowledge

<i>Knowledge of:</i>

- | |
|--|
| <ul style="list-style-type: none"> • bulk dry materials storage layout, capacities and related management systems • basic operating principles of equipment, such as the system of sensors, valves, pipe work and related equipment that controls the transfer of bulk dry materials, equipment operating capacity and the status and purpose of guards • planning and scheduling systems and responsibilities to prioritise materials transfer processes, including the characteristics of materials received and related storage requirements, production requirements and storage capacities • signs and symptoms of faulty equipment and early warning signs of potential problems • operating parameters and corrective action required where operation is outside specified operating parameters • occupational health and safety (OHS) hazards and controls, including the risk of spontaneous combustion and dust control • isolation, lock out and tag out procedures and responsibilities • product inspection procedures within level of responsibility, including types of pest infestation and common contamination relevant to dry materials transferred • procedures for separating and handling non-conforming or unacceptable product • clearance procedures, such as relevant test methods and action required if results are not within specification or clearance is not provided • contamination risks and controls, including cross-contamination risks, product compatibility and storage requirements • environmental issues associated with dry goods handling and storage • recording requirements and procedures • basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment • sampling and testing associated with process monitoring and control where relevant • routine maintenance procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm transfer requirements • conduct pre-start checks on equipment used for transfer • start, operate, monitor and adjust process to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on storage locations, capacities and bulk receipt equipment capacity and operating parameters • bulk transfer system, equipment and services • bulk materials (dry) • receipt schedules and sequencing systems • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	<p>other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity. <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • delivery bills and dockets • standard forms and reports
Confined spaces	<p>Where cleaning tanks or silos requires entry to confined spaces, the relevant National Occupational Health and Safety Commission (NOHSC) and/or state or territory health and safety authorities assessment criteria and methods prescribed must also be met</p>
Operation of bulk transfer systems	<p>Operation of bulk transfer systems typically involves:</p> <ul style="list-style-type: none"> • the use of process control screens and systems

RANGE STATEMENT	
Bulk materials transfer equipment	Bulk materials transfer equipment may include: <ul style="list-style-type: none"> • screw elevators • bucket elevators and other mechanical/pneumatic stock transfer equipment

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2007A Work in a freezer storage area

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to enter and work in a freezer storage or cold room area.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a food processing environment. This unit may be used in conjunction with FDFOP2010A Work with temperature controlled stock.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to enter a freezer storage environment	1.1. Appropriate clothing and footwear are identified and available 1.2. Clothing and footwear are correctly fitted prior to entering a freezer 1.3. Checks and inspections are conducted according to workplace procedures
2. Identify and monitor equipment operation in a freezer storage environment	2.1. Effects of freezing temperatures on equipment used are identified 2.2. Equipment is monitored to ensure it is in operational order when in use in a freezer
3. Handle frozen product safely	3.1. Handling requirements for frozen product are identified 3.2. Frozen product is handled safely 3.3. Work is conducted in accordance with workplace environmental guidelines
4. Respond to emergencies	4.1. Signs and symptoms of exposure are identified 4.2. Appropriate action is taken to minimise effects of exposure of self and others

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- locate and fit appropriate protective clothing, footwear and equipment
- follow procedures to enter and work in a freezer environment to ensure safety of self and others, including carrying out relevant checks and inspections prior to entry as required by workplace procedures
- follow procedures to handle product to avoid product damage
- monitor operating performance of equipment used in the freezer and identify signs of unsafe or unfit operation
- conduct work in a manner appropriate to minimising risk of contamination
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and conditions required in a freezer storage environment, including how temperature parameters are maintained in the freezer/cold room
- safety requirements and hazards associated with entering and working in a freezer storage/cold room area, including required protective clothing and equipment, limitations of protective clothing and equipment, and maximum work duration
- symptoms associated with hypothermia and action to take if these occur
- the effects of freezer/cold room temperatures and frozen condensation on equipment used in a freezer/cold room but designed for room temperature operation, including symptoms that equipment is unsafe or unfit for use
- effects of room temperatures on equipment using hydraulic oils designed for freezer/cold room temperatures
- typical freezing rates for product handled, such as products stacked on pallets
- handling requirements for moving pallets of frozen product and how this differs from moving pallets of fresh product
- the differences in product stability of pallets loaded with fresh compared with frozen product and related wrapping requirements
- the effect of freezing on product packaging and related handling requirements
- housekeeping requirements for work area

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify risks associated with freezer storage to self and equipment and identify controls to address risks • correctly use personal protective equipment • use and monitor equipment in freezer storage • take corrective action in response to typical faults, inconsistencies and symptoms of exposure • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • freezer storage/cold room area • stock to be held in frozen storage.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2010A Work with temperature controlled stock.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2008A Operate a bulk liquid transfer process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to receive and load out bulk liquid product or raw materials.
------------------------	--

Application of the Unit

Application of the unit	This unit includes transferring bulk liquid product/materials from tankers and/or between storage and production storage facilities. Where bulk transfer of product is to and/or from tankers, refer to FDFOP2009A Load and unload tankers.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare bulk liquid transfer equipment and process for operation	1.1. Tank locations, product/materials holdings and capacities are identified 1.2. Actual to recorded holding levels are confirmed 1.3. Condition of tank farm and related equipment is inspected and maintenance requirements are identified and reported according to workplace reporting requirements 1.4. Transfer equipment settings and operating parameters are selected to meet safety and transfer requirements 1.5. Checks, tests or other materials/product clearance procedures are followed prior to transfer as required by workplace 1.6. Priorities for materials transfer are established to match intakes/transfers to storage capacity and production requirements
2. Transfer bulk liquid materials	2.1. The transfer process is started and operated according to workplace procedures 2.2. The transfer process is monitored to confirm correct location selection, quantities and equipment settings 2.3. Bulk liquid materials/product is transferred to the required location/storage facility 2.4. Workplace housekeeping standards are maintained 2.5. Work is conducted in accordance with workplace environmental guidelines 2.6. Workplace records are maintained according to workplace recording requirements
3. Complete transfer operations	3.1. Valves and related equipment settings are correctly positioned to complete transfer operation 3.2. Product/materials are purged from lines 3.3. Equipment is cleaned and prepared for further transfer 3.4. Information on the transfer operation is recorded according to workplace reporting requirements 3.5. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- Access workplace information relating to materials transfer requirements
- Select, fit and use personal protective clothing and/or equipment
- Inspect equipment for signs of wear. Examples of typical sensory inspections include visual inspections to detect leaks, listening for unusual noises and or vibrations in pumps and checking gauges and meters
- Use workplace records and systems to confirm tank holdings and capacities and determine appropriate source/destination holding facilities. This typically involves use of computer-based systems. It may also involve verifying by physically inspecting storage facilities and checking materials/product compatibility
- Plan and sequence transfer process to meet storage capacity and production requirements
- Prepare equipment for materials transfer. This may involve confirming that equipment is clean, lines are purged, isolation or lockouts are cancelled as required, any scheduled maintenance has been completed and safety guards/equipment are correctly positioned
- Carry out procedures to confirm liquid bulk product/materials meet quality requirements. This may involve conducting tests or getting clearance documentation from laboratory/quality personnel
- Operate and monitor transfer process to confirm that correct quantities are transferred at the required times, to the required locations. This may include monitoring pump loads and flow rates and filter/strainer condition
- Respond to and/or report equipment failure within level of responsibility
- Locate emergency stop functions on equipment
- Complete transfer operations. This may include purging lines and selecting appropriate equipment/system settings
- Complete records of product/materials transfer as required
- Maintain work area to meet housekeeping standards
- Use process control and scheduling systems, screens and panels according to enterprise procedures
- Take and record product/materials samples and conduct tests according to enterprise procedures
- Conduct routine maintenance according to enterprise procedures
- Clean transfer equipment. This may require entry to confined spaces. Where this is the case, appropriate certification requirements must also be met
- Use oral communication skills / language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for

REQUIRED SKILLS AND KNOWLEDGE

clarification and seeking advice from supervisor

- Work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- Bulk liquid materials storage facilities layout and related management systems
- Basic operating principles of the system and equipment used. This includes an understanding of the features of the bulk liquid handling system such as whether it is based on gravity and/or pressurised feed, and related performance aspects. It also includes an understanding of the equipment used which typically includes sensors, valves, pumps, pipework and other related equipment that controls the flow and transfer of bulk liquid materials, equipment operating capacity and the status and purpose of guards
- Planning and scheduling systems and responsibilities to prioritise materials transfer processes. This includes an understanding of the characteristics of materials received and related storage requirements, production requirements and storage capacities
- Signs and symptoms of faulty equipment and early warning signs of potential problems
- Operating parameters and corrective action required where operation is outside specified operating parameters
- OHS hazards and controls. This includes emergency procedures to respond to hazardous situations such as spills
- Product inspection procedures within level of responsibility
- Clearance procedures. This may include relevant test methods and action required if results are not within specification or clearance is not provided
- Contamination risks and controls. This includes an understanding of cross-contamination risks, product compatibility and storage requirements
- Isolation, lock out and tag out procedures and responsibilities
- Environmental issues associated with bulk liquid materials transfer. This includes consequences of spills and appropriate control/containment procedures
- Recording requirements and procedures
- Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment
- Sampling and test procedures where relevant
- Routine maintenance procedures where relevant
- Cleaning procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm transfer requirements • conduct pre-start checks on equipment used for transfer • start, operate, monitor and adjust process to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OH&S hazards and controls • apply food safety procedures
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • bulk liquid materials transfer system and related equipment • bulk liquid materials transfer operating procedures • bulk liquid product/materials to be transferred • housekeeping standards and procedures • sampling and test equipment as required • cleaning procedures, materials and equipment as required • bulk liquid materials transfer information recording system and procedures
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competence relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2030A Operate a process control interface • FDFOP2013A Apply sampling procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• PMLTEST300B Perform basic tests• FDFOP2011A Conduct routine maintenance• FDFOP2004A Clean and sanitise equipment
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity. When applied to the pharmaceutical industry, relevant GMP codes apply and reference to food safety is replaced by GMP
Workplace information	Workplace information may include Standard Operating Procedures (SOPs), specifications, production schedules and instructions, manufacturers' advice, standard forms and reports
Transfer of bulk liquid materials	Transfer of bulk liquid materials typically involves the use of process control screens and systems
Typical bulk liquid transfer equipment	Typical bulk liquid transfer equipment includes tanks, vessels, pumps, valves, gauges, pipework, screens and filters, and tank dipping and measurement instrumentation
Confined spaces	Where cleaning tanks or silos requires entry to confined spaces, the relevant National Occupational Health and Safety Commission and/or state health and safety authorities assessment criteria and methods prescribed must also be met
Monitoring the condition of bulk liquid transfer equipment	Monitoring the condition of bulk liquid transfer equipment may include visually inspecting to identify leaks or faulty valve operation, and

RANGE STATEMENT	
	checking operation/accuracy of gauges and related measuring equipment

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2009A Load and unload tankers

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prepare, load and unload transport tankers with bulk product.
------------------------	---

Application of the Unit

Application of the unit	Where product is transferred between storage areas and/or production facilities and does not involve tankers, refer to FDFOP2006A Operate a bulk dry goods transfer process and/or FDFOP2008A Operate a bulk liquid transfer process.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare transport tankers for loading	1.1. The loading schedule is checked to confirm loading requirements 1.2. Tankers are fit for purpose and meet cleaning requirements 1.3. Transfer equipment is fit for purpose and in operational condition 1.4. Transfer equipment settings and operating parameters are selected to meet safety and loading requirements 1.5. Bulk materials are located to confirm type, quantity available and clearance for loading 1.6. Priorities for loading are established to meet delivery requirements
2. Prepare to unload transport tankers	2.1. Receipts documentation is checked to confirm material type and quantities 2.2. Materials are cleared for unloading 2.3. Bulk storage locations, holdings and capacities are identified 2.4. Actual to recorded holding levels are confirmed 2.5. Transfer equipment is fit for purpose and in operational condition 2.6. Priorities for unloading are established to meet delivery requirements
3. Operate and monitor the tanker loading/unloading process	3.1. The tanker loading process is started and operated according to workplace procedures 3.2. Equipment is monitored to confirm load transfer to correct tanker in correct quantities 3.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 3.4. The workplace meets housekeeping standards 3.5. Work is conducted in accordance with workplace environmental guidelines 3.6. Workplace records are maintained according to workplace recording requirements
4. Complete loading operations	4.1. Equipment settings are selected to complete loading operation 4.2. In-flight product is purged from lines 4.3. Equipment is cleaned and prepared for further

ELEMENT	PERFORMANCE CRITERIA
	loading 4.4. Information on the loading operation is recorded according to workplace reporting requirements 4.5. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information relating to loading/unloading requirements
- select, fit and use personal protective clothing and/or equipment
- inspect loading/unloading equipment for signs of wear, such as visual inspections to detect leaks, listening for unusual noises and/or vibrations in pumps, and checking gauges and meters
- confirm that tankers are in a suitable condition for loading, such as checking cleaning records and confirming that any scheduled maintenance has been carried out (where product is temperature controlled, it includes confirming capacity of vehicle to meet temperature control requirements)
- check receipts/despatch documentation to confirm material types, quantities and transfer requirements
- confirm that bulk product/materials meet quality requirements for loading/unloading, such as conducting tests or getting clearance documentation from laboratory/quality personnel
- use workplace records and systems to:
 - confirm storage holdings and capacities
 - determine appropriate source/destination for loads (this typically involves use of computer-based systems), and where required, verifying by physically inspecting storage facilities and checking materials/product compatibility
- plan and sequence loading/unloading to meet delivery, requirements/storage capacity and production requirements as appropriate
- liaise with drivers to confirm loading requirements
- prepare transfer equipment for use, such as confirming that equipment is clean, lines are purged, isolation or lockouts are cancelled as required, any scheduled maintenance has been completed
- operate and monitor the loading/unloading process to confirm that correct quantities are transferred at the required times, to the required locations, such as monitoring pump loads, flow rates and filter/strainer condition
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- complete transfer operations, such as purging lines and selecting appropriate equipment/system settings
- complete records of product/materials transfer as required
- maintain work area to meet housekeeping standards
- use process control and scheduling systems, screens and panels according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- take and record product/materials samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean transfer equipment (this may require entry to confined spaces, and where this is the case, appropriate certification requirements must also be met)
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- bulk storage facilities layout and related management systems
- basic operating principles of the system and equipment used, including the features of the tanker loading/unloading and materials transfer systems
- equipment used, such as sensors, valves, pumps, pipework and other related equipment that controls the flow and transfer of bulk materials, equipment operating capacity and the status and purpose of guards
- tanker types and capacities
- planning and scheduling systems and responsibilities to prioritise loading and unloading processes, including the characteristics of materials received and related storage requirements, production requirements and storage capacities
- signs and symptoms of faulty equipment and early warning signs of potential problems
- operating parameters and corrective action required where operation is outside specified operating parameters
- product inspection and procedures within level of responsibility
- clearance procedures, such as relevant test methods and action required if results are not within specification or clearance is not provided
- occupational health and safety (OHS) hazards and controls, including emergency procedures to respond to hazardous situations, such as spills
- contamination risks and controls, including cross-contamination risks, product compatibility and storage requirements
- isolation, lock out and tag out procedures and responsibilities
- environmental issues associated with bulk liquid materials transfer, including consequences of spills and appropriate control/containment procedures
- recording requirements and procedures, such as related receivals and despatch documentation
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and test procedures
- routine maintenance procedures where relevant

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• pressurisation process and related equipment procedures where relevant• cleaning procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm loading requirements • conduct pre-start checks on equipment used for loading • ensure readiness of bulk product • start, operate, monitor and adjust process to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures • clean equipment.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters and tanker types and capacities • loading/unloading schedules and related receipts and/or despatch documentation • tankers, storage facilities, materials transfer equipment and related equipment and services • materials for loading/unloading • sampling and test equipment as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> loading/unloading information recording system and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	Equipment may include: <ul style="list-style-type: none"> • bulk storage facilities/tanks • filters • pumps • manifolds • hoses • pipework • valves • strainers/filters • booms • gauges and meters Related processes/equipment may include: <ul style="list-style-type: none"> • pasteurising units

RANGE STATEMENT	
Tankers	Tankers may be: <ul style="list-style-type: none"> • heated or unheated • pressurised or unpressurised • single or multi-compartment
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2010A Work with temperature controlled stock

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to store and retrieve temperature controlled stock from appropriate storage facilities.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a food processing environment. Where work is undertaken in a freezer storage environment, also consider FDFOP2007A Work in a freezer storage area.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Store stock to meet temperature control requirements	1.1. Goods requiring temperature control are identified 1.2. Goods are located in correct storage areas to meet storage temperature, stores handling and stock rotation requirements 1.3. Stores information is recorded according to workplace requirements
2. Monitor and maintain temperature of stock within specifications	2.1. Stock temperature is monitored to confirm temperature is within specified limits 2.2. Storage areas are monitored to confirm temperature is within storage zone limits 2.3. Residence time in temperature controlled stores is monitored to meet stock control requirements 2.4. Out-of-specification storage temperatures are identified and corrective action is taken
3. Transfer temperature controlled stock	3.1. Goods are handled and transferred to maintain temperature control and meet stock rotation requirements 3.2. Stores transfer information is recorded according to workplace reporting requirements 3.3. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to determine product handling and storage requirements
- identify storage requirements including temperature limits, minimum duration at given temperatures, and segregation and co-storage requirements
- identify temperature controlled storage facilities and temperature zones available
- select, fit and use personal protective clothing and/or equipment
- use materials handling equipment in a temperature controlled environment as required to undertake work functions
- follow procedures to measure temperature of product, such as use of instrumentation as required to take core and surface temperatures
- read instrumentation, such as temperature gauges, to monitor stores and zone temperatures
- identify and report out-of-specification temperatures in product and storage facilities
- take corrective action in response to out-of-specification temperatures including implementation of procedures to segregate damaged or potentially unsafe product
- complete records of stock receipt and transfer as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- occupational health and safety (OHS) hazards and controls, including the purpose and limitations of protective clothing and equipment
- temperature controlled storage facilities and capacities available in the work area, such as temperature zones within a single store and concepts (e.g. the Cold Chain compliance) as relevant to work requirements
- temperature control requirements of stock handled in the work area, including acceptable temperature ranges and consequences of failing to meet these ranges, and where required requirements for gradual temperature change
- stock handling procedures for receiving and locating stock within a store, including stock rotation and procedures for identifying, segregating, and disposing of damaged or potentially unsafe stock

REQUIRED SKILLS AND KNOWLEDGE

- stock handling procedures for transferring temperature controlled stock from a temperature controlled environment, including maximum duration stock can be held outside a controlled environment
- food safety and quality consequences of stock temperature control requirements not being met
- monitoring procedures and instrumentation, including use of thermometers or other temperature measuring instrumentation
- notification, recording and reporting requirements
- operating procedures for goods handling equipment as required
- housekeeping requirements for work area
- recording requirements and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify storage requirements of temperature controlled stock • monitor temperature of storage area and stock to ensure standards are maintained • handle and transfer stock to maintain required conditions • identify and act on non-conformances • complete workplace documentation • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • temperature storage specifications • stock handling and rotation systems • controlled temperature storage facilities • stock requiring storage • load shifting equipment as required • stock information recording system and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2007A Work in a freezer storage area • TLIA1407C Use product knowledge to complete work operations • TLID1007C Operate a forklift • TLIK107C Use infotechnology devices and computer

EVIDENCE GUIDE	
	applications in the workplace <ul style="list-style-type: none">• TLID207C Shift a load using manually-operated equipment.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Temperature controlled stock	<p>Temperature controlled stock may include:</p> <ul style="list-style-type: none"> stock to be stored at a constant temperature and at different temperatures for given durations
Temperature controlled storage facilities	<p>Temperature controlled storage facilities include:</p> <ul style="list-style-type: none"> any controlled temperature environment

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2011A Conduct routine maintenance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to inspect equipment and carry out routine maintenance and/or adjustment using a limited range of hand tools.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for conducting simple and routine maintenance tasks to support the operation of machines or equipment.</p> <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Food Standards Code and reference to food safety is replaced by GMP.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Conduct routine inspection of plant and equipment	1.1. Equipment is inspected to identify signs of wear 1.2. Nature of maintenance requirement is assessed
2. Prepare to conduct routine maintenance	2.1. Maintenance task is assessed to determine tools and services required 2.2. Equipment is prepared for maintenance 2.3. Hand tools are selected according to task requirements 2.4. Tools are checked before use and unsafe and/or faulty items are reported within standard procedures 2.5. Maintenance is planned and scheduled in consultation with affected work areas to minimise disruption to production
3. Carry out routine maintenance	3.1. Routine maintenance on equipment is carried out according to workplace procedures 3.2. Maintenance activities are reported according to workplace reporting requirements
4. Complete maintenance tasks	4.1. Equipment is returned to operating order 4.2. Tools and materials are stored according to workplace procedure 4.3. Relevant personnel are notified of maintenance completion 4.4. Housekeeping standards are maintained 4.5. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information such as the equipment history, faults or difficulties
- select, fit and use personal protective clothing and/or equipment
- inspect equipment for signs of wear, such as visual inspections to detect leaks, listening for unusual noises and/or vibrations
- identify and describe maintenance requirements, including the ability to assess the urgency of the maintenance issue, recognise common types of maintenance requirements and run basic checks according to workplace procedures to confirm the need for and type of maintenance support required
- take action to address maintenance requirements, such as carrying out routine maintenance within level of skill and responsibility and/or reporting outstanding maintenance to appropriate personnel using the required forms or request system
- plan and schedule maintenance within level of responsibility, such as consulting affected personnel and/or work areas on timing and notifying of maintenance progress
- prepare equipment and work area for routine maintenance, including cleaning equipment prior to carrying out maintenance and confirming that equipment is safe to work on, and simple isolation or tag out of equipment as required by workplace procedure
- select and use hand tools as required to carry out maintenance task
- select relevant parts and materials as required to carry out maintenance task
- carry out routine maintenance tasks according to workplace procedures
- on completion of maintenance tasks, return equipment to operational order, including confirming that all equipment parts, nuts and bolts are accounted for and correctly tightened, and where required, cleaning and sanitising equipment
- store tools in designated location, including basic tool maintenance, such as oiling
- complete records of maintenance as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- system in place to manage maintenance of plant and equipment in the workplace, including programs, such as responsive, preventative and proactive maintenance as

REQUIRED SKILLS AND KNOWLEDGE

- appropriate
- responsibilities for participating in the maintenance program, including scope of operator responsibilities, roles of others involved in plant and equipment maintenance and procedures for raising maintenance orders where requirements are outside operator role
- basic operating principles of equipment to be maintained
- signs and symptoms of faulty equipment and early warning signs of potential problems
- basic checks used to confirm the nature of maintenance requirements, including distinguishing between mechanical and electrical faults and identifying probable causes or conditions that may increase maintenance requirements of equipment used
- procedures for issuing, maintaining and storing tools used
- safe use of hand tools and measuring instrumentation relevant to maintenance responsibilities
- lubrication requirements, including requirements to use food grade lubricants as required and consequences of using incorrect type or amount of lubricants
- safe work procedures, including appropriate signage of maintenance activities as required, use of appropriate personal protective clothing and equipment, and awareness of safety hazards and controls relating to maintenance tasks
- methods used to render equipment safe to work on or clean including lock out/tag out and isolation procedures (in some cases this may involve liaising with other maintenance operators)
- procedures and inspections to be carried out to confirm that equipment is in operating order and all parts are accounted for
- food safety risks arising from poor personal hygiene, cleaning and housekeeping practices and procedures associated with routine maintenance
- maintenance planning, scheduling and recording procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify routine maintenance tasks for machine or equipment • monitor operation and identify need for maintenance tasks • schedule maintenance tasks and communicate requirements with affected personnel • select and use appropriate hand tools to undertake routine maintenance • assess readiness for returning machine or equipment to operation or referring for further attention • complete maintenance documentation • apply safe work practices and identify OHS hazards and controls.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • tools, equipment and supplies used in minor routine preventative maintenance • routine maintenance and lubrication schedules and procedures • equipment to be maintained • housekeeping standards and procedures • maintenance information recording system and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

EVIDENCE GUIDE	
-----------------------	--

assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------	--

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Routine maintenance

Routine maintenance is carried out according to company policies and procedures, licensing requirements, legislative requirements and industrial awards and agreements

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production log books
- routine maintenance schedules
- manufacturers' advice
- condition monitoring information

Typical routine maintenance tasks

Typical routine maintenance tasks will depend on the workplace and may include:

- replacement of consumable components, such as O-rings, hoses, filters and other 'bolt-on/bolt-off' equipment parts
- lubrication of equipment and maintenance of fluid levels
- simple adjustment, alignment or attachment of equipment components, parts, guides and sensors
- clearing blocked nozzles, such as glue nozzles
- positioning/attaching equipment components
- carrying out basic maintenance on video inkjet machines

Tools and materials

Tools and materials depend on the maintenance function and may include:

- a limited range of hand tools, such as spanners and screwdrivers, grease guns, Allen keys and measuring and alignment equipment

Materials may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> lubricants and consumables for video inkjet printers
Inspections of equipment	Inspections of equipment may be carried out: <ul style="list-style-type: none"> informally or as part of a structured program associated with proactive maintenance

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2012A Maintain food safety when loading, unloading and transporting food

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to load and transport temperature-sensitive ingredients and products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit describes the food safety aspects of loading and transporting food where the transport operator does not have direct physical contact with food. Where food is directly handled by the transport operator, the relevant food handling unit also applies.</p> <p>This unit does not address competencies related to vehicle inspection and operation.</p> <p>This unit is based on and equivalent to the guideline food safety unit GFSTFA Transport food.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to transport food	<p>1.1. Food storage vehicles and containers/receptacles are appropriate for use</p> <p>1.2. Food storage vehicles and containers/receptacles are prepared for use</p> <p>1.3. Food is loaded and secured as required to meet transportation and temperature control requirements</p> <p>1.4. Hand washing and disinfecting procedures are followed to meet workplace requirements</p> <p>1.5. Work is conducted in accordance with workplace environmental guidelines</p>
2. Load, unload and transport food safely	<p>2.1. Food safety control measures are monitored to ensure that food safety is maintained during transport</p> <p>2.2. Where food safety control requirements are not met, the incident is promptly reported and corrective action is taken</p> <p>2.3. Food is unloaded as required according to transportation and temperature control requirements</p> <p>2.4. Food safety information is recorded to meet workplace requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to determine food handling and transport requirements
- select, fit and use personal protective clothing and/or equipment
- confirm that the vehicle and associated equipment are appropriate and ready for use, including confirming that vehicle type is capable of maintaining the required temperature range for product
- prepare transport containers (this will vary depending on the type of food and transport method), such as checking cleaning records, and where required, confirming product compatibility to ascertain that appropriate level of cleaning has occurred
- prepare the storage/holding environment as required, including confirming that temperature parameters for the loading and unloading areas are met
- follow procedures to load/unload food to ensure that materials/product is loaded/unloaded in correct sequence and configuration and that food cannot become contaminated by being located in proximity to other food or non-food items that can cause contamination (osmosis)
- monitor temperature parameters and related food safety control points before, during and after transporting food and record information in the required format
- take appropriate corrective action in response to failure to meet temperature parameters or other food safety requirements as required by workplace procedures
- clean and sanitise food containers according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- food safety control points in the loading/unloading and transportation of food materials and product and related methods of control
- characteristics of food transported and related transport environment requirements
- micro-biological, physical and chemical hazards that can occur when loading, transporting and unloading food, appropriate to nature and method of food transported, including the types of hazards likely to occur, the conditions under which they occur, and possible consequences
- methods and procedures used to control food safety hazards (this depends on the

REQUIRED SKILLS AND KNOWLEDGE

type of controls and equipment used), including the purpose and operation of equipment, procedures in place to maintain food safety and workplace records, such as temperature control charts and cleaning and sanitation records

- procedures used to confirm that transportation and related food safety equipment is appropriate for use and operational, such as equipment capacity to maintain a given temperature environment appropriate to the food product
- cleaning and sanitation requirements for food containers where relevant
- where contamination by osmosis is a possibility, the potential for cross-contamination resulting from location in proximity to other food or non-food items that are transported

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • ensure readiness of transport in accordance with product requirements • identify risks associated with transporting food products • identify and apply control measures for ensuring safety of food • load and unload goods according to requirements • identify and act on non-compliances • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • loading/unloading and transport advice/schedules • food safety information (this may be included in a food safety plan and/or integrated into work procedures) • work procedures relevant to loading/unloading and transportation, including advice on required temperature parameters to be maintained • workplace information, such as temperature charts and cleaning records as appropriate • food materials and product to be loaded/unloaded and transported • documentation and recording requirements and procedures .
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or</p>

EVIDENCE GUIDE	
	work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, licensing requirements, legislative requirements and industrial awards and agreements. When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • food safety program • product handling specifications • transport schedules and instructions • transport vehicle manufacturers' advice • standard forms and reports
Transport vehicles	<p>Transport vehicles are appropriate for the transportation of food and capable of maintaining the required environment for the food type transported</p>
Food safety controls	<p>Food safety controls refer to the methods used to control food safety hazards. Control methods, requirements and record keeping are specified in workplace food safety procedures which typically form part of a workplace food safety program</p>
Safe food transport parameters	<p>Safe food transport parameters depend on the type of food transported. Industry guidelines and codes, such as Cold Chain guidelines should be used as a basis for setting these parameters where available</p>
Confirming readiness for use of food transport vehicle	<p>Confirming readiness for use of food transport vehicle and containers/receptacles can include:</p> <ul style="list-style-type: none"> • confirming that the vehicle is in good operating order and that containers/receptacles used to

RANGE STATEMENT	
	<p>store food meet the relevant cleaning and sanitation requirements</p> <p>It may also include:</p> <ul style="list-style-type: none"> bringing the food handling area and storage container/receptacle to within the required temperature range before loading/unloading and confirming that equipment required to maintain temperature is operational
Food safety incidents	A food safety incident is a situation where the safe limits or parameters identified by the food safety program are not met

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2013A Apply sampling procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to understand the requirements of sampling plans, and to collect and transfer samples to retain sample integrity.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. Operators requiring this competency would typically be required to follow specific sampling procedures, such as aseptic sampling.</p> <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for sampling	<p>1.1. Sampling requirements are identified in accordance with the sampling plan</p> <p>1.2. Sampling equipment, containers and labels are prepared</p>
2. Collect samples	<p>2.1. Samples are collected according to sampling procedures and the requirements of the sampling plan</p> <p>2.2. Samples are handled and prepared to preserve sample and source integrity</p> <p>2.3. Defects or abnormalities in source material and/or sample are identified and reported</p> <p>2.4. Sample information is recorded according to workplace sample recording requirements</p> <p>2.5. The work area is maintained according to housekeeping standards</p> <p>2.6. Work is conducted in accordance with workplace environmental guidelines</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access and interpret sampling plan to identify sampling requirements
- select, fit and use personal protective clothing and/or equipment
- prepare for sampling to ensure required tools, containers and labels are available
- follow sampling procedures and the sampling plan to collect samples from the points, in the quantities and at the times specified
- identify atypical source materials and/or samples and take corrective action, such as reporting abnormalities, repeating sample collection and/or following intensive sampling schedules as required
- complete sample records according to workplace requirements, such as labelling samples as required
- transfer samples for testing
- maintain work area to meet housekeeping standards
- prepare samples according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic sampling principles, including the importance of following the sampling plan to obtain representative sampling reflecting characteristics of source material, the sample characteristics and related preservation, handling and storage requirements, and the labelling system purpose and requirements
- tests to be conducted on samples and related handling and preparation requirements and responsibilities
- characteristics of materials sampled and common contaminants and related conditions under which contamination is likely to occur
- sampling techniques relevant to samples collected, such as sterilisation methods and procedures
- the relationship between sampling, testing and production processes, including different sampling regimes that may apply in response to non-standard conditions or after corrective action is taken to adjust production outputs
- procedures and responsibility for reporting and recording sampling information, such as legislative requirements

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• procedures for preparing samples where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on equipment used for collecting and handling samples • collect, handle and store samples according to sampling requirements and standards • take corrective action in response to typical defects and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • sampling plan • documentation, including specifications, work instruction and other advice on sampling requirements • recording and reporting system • sampling instrumentation and containers as required • product/source material to be sampled.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Example could be:</p> <ul style="list-style-type: none"> • MSL973001A Perform basic tests
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • sampling plans
Sampling requirements	<p>Sampling requirements include:</p> <ul style="list-style-type: none"> • sampling under standard conditions • sampling after processes are adjusted in response to variation or non-conformance
Sampling	Sampling typically occurs at a number of points and using a range of techniques
Maintenance of sample integrity	<p>Maintenance of sample integrity may be achieved by:</p> <ul style="list-style-type: none"> • use of appropriate personal protective clothing • use of clean sampling tools and containers (sterilised tools/containers for aseptic sampling) • temperature control • addition of preservatives as required
Sampling techniques	<p>Sampling techniques may include:</p> <ul style="list-style-type: none"> • sub-sampling

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2014A Participate in sensory analyses

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to participate in sensory analyses of food products and ingredients.
------------------------	---

Application of the Unit

Application of the unit	This unit applies in the food processing industry. It covers analyses of food product or ingredients using taste, texture, appearance and smell.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to conduct sensory analysis	1.1. Personal conduct and the test environment are appropriate to conducting sensory analysis 1.2. Criteria for assessment is available and appropriate to analysis requirements 1.3. Method of analysis is appropriate 1.4. Samples are available for analysis 1.5. Defects or abnormalities in sample are identified and reported
2. Conduct sensory analysis	2.1. Samples are analysed according to workplace procedure and analysis criteria 2.2. Results are recorded according to workplace recording requirements 2.3. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access and interpret sensory analysis schedule and analysis criteria to identify requirements
- ensure that personal conduct does not jeopardise analytical ability
- confirm that samples are available and in an appropriate condition for analysis
- follow procedures to analyse samples provided
- record and/or report results of analysis
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- principles of sensory analysis, including attributes that can be detected by taste and smell, such as sour, sweet, salty and bitter, and how these different tastes are detected (where on the tongue tastes are discerned, and the interaction between taste and smell, it also includes an understanding of attributes detected by mouth feel and appearance)
- sensory analysis system and procedures, such as the collection and use of reference samples, the role of the individual in the analysis process and how the system validates analysis results
- specific criteria used to evaluate material/product samples and the associated descriptions
- sample preparation requirements (this is dependent on materials/products to be analysed), including the effect of sample temperature on sensory analysis
- the effect of personal conduct on analytical ability, including stimuli and conditions that can dull sensitivity
- requirements of the environment appropriate to conducting sensory analyses
- the components of material/product sampled that contribute to flavour, aroma, appearance and texture
- the likely causes of variation in results, including typical variation that can occur in the material/product and how these occur, as well as how the method of analysis, environment and state of individual participants that can affect the outcome
- procedures and responsibility for recording and reporting sensory analysis information

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct a sensory analysis of food and food ingredients using texture, taste, smell and appearance • interpret results of sensory analysis against assessment criteria • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • samples for analysis • sensory analysis environment, procedures, criteria and reporting documentation.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role. Example could be: <ul style="list-style-type: none"> • FDFOP2013A Apply sampling procedures.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • sampling plans • sensory analysis criteria • reporting documentation
Sensory analysis	Sensory analysis may be conducted by individuals and/or panels and applied to materials/ingredients and/or final products
Attributes to be analysed	Attributes to be analysed may include: <ul style="list-style-type: none"> • flavour • appearance • aroma • texture

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2015A Apply principles of statistical process control

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to collect statistical information and analyse and interpret data in order to inform work processes.
------------------------	---

Application of the Unit

Application of the unit	This unit has application where some data collection and interpretation is required to inform work practices. This typically includes plotting data on charts, such as run or control charts, and identifying variation according to given limits.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2061A	Use numerical applications in the workplace

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Collect statistical information	1.1.Data requirements are identified 1.2.Data is collected to meet requirements
2. Analyse and interpret data	2.1.Data is analysed to identify variation 2.2.Trends in data are identified 2.3.Corrective action requirements are determined based on data

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify and collect required data
- retrieve/access data, which may require use of computer programs to access and analyse data, and the ability to locate the relevant information or screens to collect and analyse the data
- apply basic statistical analysis techniques to meet work requirements, such as plotting data on charts (e.g. run or control charts) and identify variation according to given limits
- interpret data to identify trends (manually or using a computer program)
- determine when corrective action is required, such as identifying upper and lower control limits (and warning limits where relevant)

Required knowledge

Knowledge of:

- data sampling method, including the nature of the sample on which data is based and the reasons for different sampling requirements that may apply in a given situation
- concept of variation, including the difference between common and special causes of variation and consequent options for reducing variation and remaining within a given range
- the purpose and process of establishing targets and limits
- concept of standard distribution/standard deviation
- methods used to analyse statistical data, including methods to determine the average, median and mean, and what these measures indicate

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify data for collection and requirements for ensuring accuracy • interpret data • document data on charts, graphs or required workplace format • identify need for corrective action.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • statistical process control data • related data collection and analysis systems • calculator.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Data collection	<p>Data collection may be based on a sampling regime followed by an operator or collected automatically. Data collection may include:</p> <ul style="list-style-type: none"> collecting samples and taking measurements
Data analysis	<p>Data analysis typically involves:</p> <ul style="list-style-type: none"> use of computer programs but may also be carried out manually

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2016A Work in a food handling area for non-food handlers

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to conduct work in a food handling area where the work does not involve direct food contact.
------------------------	---

Application of the Unit

Application of the unit	<p>Typical applications for this unit include stores/warehousing, cleaning and maintenance workers. This unit is not appropriate for a person who has direct contact with food and/or raw materials or ingredients. Where this is a requirement, refer to relevant core food safety units.</p> <p>This unit is based on and equivalent to the guideline food safety unit GFSWFHAA Carry out work in a food handling area.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain food safety while working in a food handling area	<p>1.1. Food safety requirements related to work tasks are identified and followed</p> <p>1.2. Work responsibilities are carried out so that the safety of food is maintained</p> <p>1.3. Procedures or practices which are not consistent with workplace food safety program are identified and reported</p>
2. Maintain food handling area in clean and orderly state	<p>2.1. Equipment and the food handling area meet the cleaning and sanitation requirements of workplace food safety program</p> <p>2.2. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.3. Waste is collected and disposed of according to workplace procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access and apply workplace information on food safety policies and procedures relating to own work
- fit and use appropriate personal protective clothing and equipment as required by work tasks to meet food business requirements
- maintain personal conduct consistent with workplace requirements
- check own work area to identify food safety hazards
- carry out work responsibilities to ensure that food safety is not compromised
- take necessary precautions when moving between or around the workplace and/or from one task to another to minimise the risk of contamination
- recognise and report situations or procedures that could compromise food safety according to workplace procedure, including following procedures in own work and related work area to report to the appropriate personnel, in required detail and in a timely manner
- take corrective or preventative action within level of responsibility
- report health conditions and illness as required by workplace food safety procedures
- sort and dispose of waste as required by work responsibility according to workplace procedure
- maintain housekeeping standards in work area
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- food safety requirements related to own work as determined by the workplace
- sources of advice on food safety issues and responsibilities in the workplace
- personal hygiene practices and clothing and footwear requirements associated with working in and moving in and between food handling areas and moving between food handling and non food-handling areas
- suitable standard for materials and equipment used in the food handling area, including materials that are unsuitable for use, such as breakable or dirty equipment/materials
- methods and procedures to be followed when carrying out work responsibilities in a food handling area to ensure that food safety is not compromised (this will

REQUIRED SKILLS AND KNOWLEDGE

depend on the nature of work responsibilities and food safety requirements as specified by the workplace)

- the types of contamination that can occur as a result of work activities, and procedures used to prevent these types of contamination from occurring
- cleaning and sanitation requirements and responsibilities, including cleaning methods appropriate to a food handling environment and those used in the specific food handling area
- waste collection, recycling and handling procedures
- housekeeping standards to be maintained in the work area

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify food handling procedures and food safety issues for work • apply food safety procedures when handling food products • identify and act on non-conformances • ensure cleaning standards are met • follow environmental and waste management procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • food safety policies and procedures relevant to work function • work procedures, including procedures for entering and exiting food handling areas • work process and related services/resources • work area and related equipment to undertake work function • waste collection, treatment, recycling and/or disposal methods • monitoring and reporting system.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, regulatory and licensing requirements, legislative requirements, site licences and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • advice on food safety requirements related to work function • standard forms • written or verbal instructions
Food handling area	Food handling area can refer to any work area where receiving, handling and inspecting, preparing, processing, packaging, storing and/or despatching occur
Examples of contamination that can result from work activities	<p>Examples of contamination that can result from work activities include:</p> <ul style="list-style-type: none"> • chemical contamination which could be caused by lubricants, resins and cleaning and sanitation chemicals • physical contamination which could be caused by metal, glass, plastic and cloths
Personal hygiene, clothing and footwear and requirements	Personal hygiene, clothing and footwear and requirements to report health conditions or illness must meet workplace requirements and procedures. At a minimum such procedures must ensure that any person in a food premises does not contaminate food, does not have unnecessary contact with ready-to-eat food and does not spit, smoke or use tobacco or similar in a food handling area. Refer to Food Safety Standard 3.2.2, Clause 17:3 and relevant state and territory regulations/legislation

Unit Sector(s)

Unit sector	Operational
-------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFO2017A Operate a blending, sieving and bagging process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a blending, sieving and bagging process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to the process of blending and bagging of dry goods as bulk blends or for use in food service. This process is typically used for the blending and packaging of low moisture products, such as dry flavours and marinades, donut mix, cake mix, bakery ingredients, batters, cheese powders, spice mixes and herb blends. Bag weights typically range from 5 kg to 25 kg.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried, FDFO2011A Conduct routine maintenance, should be considered.</p> <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the blend, sieve and bagging equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet safety and operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet production requirements</p> <p>1.5. Materials, ingredients, product and/or consumables are loaded or positioned as required to meet production requirements</p> <p>1.6. Equipment performance is checked and adjusted as required</p> <p>1.7. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the blend, sieve and bagging process</p>	<p>2.1. Ingredients are delivered to the blender in the required quantities and sequence to meet recipe specifications</p> <p>2.2. The process is started and operated according to workplace procedures</p> <p>2.3. Equipment is monitored to identify variation in operating conditions</p> <p>2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.5. The process is monitored to confirm that ingredients are blended, sieved and bagged to meet specifications</p> <p>2.6. Out-of-specification product or process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.7. The work area is maintained according to housekeeping standards</p> <p>2.8. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.9. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the blend, sieve and bagging process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p>

ELEMENT	PERFORMANCE CRITERIA
	3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary packaging components/consumables, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, any ensuring scheduled maintenance has been completed and all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - characteristics of blend
 - flow to sieves
 - sieve/screen condition
 - supply of packaging components/consumables
 - integrity of finished seals (stitching or thermal)
- monitor and regulate the supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the process, including the method and sequence of ingredient addition required to achieve required blend characteristics
- the purpose of packaging and properties required of packaging materials used, coding requirements and related legal requirements, including product weight
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of this process and the effect of outputs on downstream processes
- quality characteristics required of process outputs, such as packaging quality and seal integrity as required
- effect of variation in inputs, such as ingredient quality/condition, packaging components/consumables and/or services, on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems, such as sieve or screen damage
- methods used to monitor the process, such as monitoring blend characteristics and weights
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures, including product compatibility, cross-contamination risks and associated cleaning requirements
- common causes of variation and corrective action required, including procedures to manage the reprocessing (return to blend) of the first part of the blend to minimise non-conforming output
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production/packaging requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/batch changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for blending, sieving and bagging • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and operating parameters • blending, sieving and bagging equipment and services • materials to be processed and packaging components/consumables as required • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>Special product requirements include:</p> <ul style="list-style-type: none"> • Halal and Kosher licence
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment typically includes:</p> <ul style="list-style-type: none"> • ribbon and vertical blenders • sieves, including rotary and shaker sieves • net weighers • gross baggers • sew and crepe machines • heat sealers <p>The sieving stage may occur before and/or after blending</p>
Ingredients	<p>Ingredients may be delivered to the process using</p>

RANGE STATEMENT	
	bulk automated materials handling equipment or loaded manually
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shut down procedures	Shut down procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2018A Operate a case packing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a secondary packaging process used to form trays or boxes, load and position product and seal the package.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a case packing process and associated equipment. Case packers may be configured as side loading, wrap around, drop or pick and place packers.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the case packing equipment and process for operation	1.1. Packaged product and packaging components/consumables are confirmed and available to meet production requirements 1.2. Pre-start checks are carried out on process and related equipment to confirm readiness for use 1.3. Packaging components/consumables are loaded/positioned to meet requirements 1.4. Parameters are set to meet safety and packaging requirements
2. Operate and monitor the case packing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Packaging quality and packaging appearance are monitored to confirm that specifications are met 2.5. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the case packing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify casepacking requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary packaging components/consumables, including boxes/cartons and related consumables
- inspect the quality of packaging components/consumables to confirm that standards are met
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters to suit product type, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for packaging requirements, loading packaging components/consumables, positioning electronic eyes and sensors correctly, ensuring all safety guards are in place and operational, and confirming coders are correctly set for date and product requirements
- start, operate, monitor and adjust pick and place equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - box formation
 - alignment, placement and quantity of units packed
 - operation of suction cups
 - operation of related equipment (e.g. box closers and sealers)
 - operation of ink jet coders to confirm correct code and clarity/legibility
- demonstrate procedure to reference or align equipment against setup parameters
- demonstrate product/packaging changeovers
- monitor flow of product to the process and packaged goods from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take casepacking process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare equipment for cleaning
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of secondary packaging, including the requirements of packaging materials used and coding requirements
- basic operating principles of casepacking equipment, including main equipment components, status and purpose of guards, purpose and location of electronic eyes and sensors, equipment operating capacities and applications, and services required for operation of casepackers used in the workplace
- the flow of product to this stage in the packing process and the effect of outputs on downstream processes
- quality characteristics and requirements of outer packaging materials and of the packaged product, including board quality and finished packaged product specifications
- methods used to monitor the process, such as visual inspection of the process and of the quality of the packaged product
- inspection or test points (control points) in the process and the related procedures and recording requirements, and testing gluing or sealing of packages where required
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including restart procedures following a crash or jam up
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required, including the effect of variation in packaging components/consumables on performance
- contamination/food safety hazards and risks associated with this stage in the packaging process and related control measures
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/packaging changeover procedures
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the packaging process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for case packing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems and production/packaging schedules • information on equipment capacity and operating parameters • specifications, control points and operating parameters • automated case packers and related equipment and services • product to be packaged and board and related consumables • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment• FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements

Legislative requirements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:

- the Food Standards Code, including labelling, weights and measures legislation
- legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity

When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production schedules and instructions
- manufacturers' advice
- standard forms and reports

Case packing process and related equipment

Case packing process and related equipment may include:

- product assembly and indexing systems
- conveyors
- carton/box erectors
- automated product placement equipment
- bundlers
- labellers

RANGE STATEMENT	
	<ul style="list-style-type: none"> • heat/shrink wrappers • box closers • ink jet coders
Packing configuration	Packing configuration may require: <ul style="list-style-type: none"> • single or multi-layered indexing
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2019A Fill and close product in cans

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a primary packaging process that fills product into cans and hermetically seals containers using a closer or seamer.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing packing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a filling and closing process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the filling and closing process for operation	1.1. Materials and packaging components/consumables are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the filling process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that filled and closed containers meet specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Monitor closure and seaming stage	3.1. The closing stage is monitored to confirm that closures and seams meet specifications 3.2. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification 3.3. The workplace meets housekeeping standards 3.4. Workplace records are maintained according to workplace recording requirements

ELEMENT	PERFORMANCE CRITERIA
4. Shut down the filling and closing process	4.1. The appropriate shutdown procedure is identified 4.2. The process is shut down according to workplace procedures 4.3. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- prepare/condition product for filling as required
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters to suit filling requirements, cancelling isolation or lockouts as required, confirming that equipment is clean, correctly configured for filling and seaming requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been completed, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the filling process and equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - fill temperatures
 - headspace
 - vacuum
 - visual appearance of the product
 - line speed/throughput
- monitor supply and flow of materials to and from the process
- start, monitor and adjust the closer to confirm alignment and formation of the seam
- monitor control points and conduct inspections related to the seaming/closing process, including confirming that coding is correct
- take corrective action in response to out-of-specification results
- conduct product/batch changeovers
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- demonstrate shift handover procedure
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- inspect seams according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of filling and closing, including the properties and requirements of packaging materials used, hermetic sealing and properties of containers used for this purpose, coding requirements and related legal requirements, such as product weight
- the flow of this process and the effect of the filling and seaming process on downstream processes
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- quality characteristics of the filled and closed container, including seam components and integrity requirements within level of responsibility for inspection
- effect of raw material characteristics on filling and seaming
- quality parameters for cans and ends
- methods used to prepare product for filling
- effect of process variables, such as headspace, fill temperature and vacuum on the process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including restart procedures following a crash or jam up
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the production/packing process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety issues associated with filling and seaming and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities

REQUIRED SKILLS AND KNOWLEDGE

- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing procedures, where relevant, such as seam inspection procedures
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for filling and closing cans • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • production schedule • information on equipment capacity and operating parameters • specifications, control points and operating parameters • filling and closing and related equipment and services • materials to be filled as required • packaging components/consumables • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	<p>required</p> <ul style="list-style-type: none"> • documentation and recording requirements and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • batch/recipe instructions • manufacturers' advice • standard forms and reports
Product preparation	<p>Product preparation can include:</p> <ul style="list-style-type: none"> • acidifying • brining or syruping • exhausting
Product	Product may be hot or cold filled
Can seam components	<p>Can seam components include:</p> <ul style="list-style-type: none"> • body hook • end hook • countersink • seam thickness • seam juncture and overlap

RANGE STATEMENT	
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2020A Operate a form, fill and seal process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a form, fill and seal process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a forming, filling and sealing process and associated equipment. This is a primary packaging process to package product into appropriate packaging. It can apply to both aseptic and non-aseptic form and fill processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the forming, filling and sealing equipment and process for operation	1.1. Materials and packaging components/consumables are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the forming, filling and sealing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Packaging quality and seal integrity are monitored to confirm that specifications are met 2.5. Out-of-specification outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the forming, filling and sealing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary packaging components/consumables and product
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for packaging requirements, loading packaging components/consumables, positioning sensors and controls correctly, ensuring any scheduled maintenance has been completed, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the forming, filling and sealing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - formation of container/packaging
 - flow rates
 - product weights and volumes
 - fill levels
 - temperature, including product and sealing temperatures
 - supply of packaging components/consumables
 - packaging quality and seal integrity, such as testing packaging integrity
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take forming, filling and sealing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare forming, filling and sealing equipment for cleaning
- demonstrate product/process changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- demonstrate aseptic container preparation/forming, filling and sealing according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of forming, filling and sealing, including the purpose and characteristics required of packaging materials used, and the methods used to form packaging, fill and seal product (where methods involve vacuum or map packaging, it includes an understanding of the effect of modified atmosphere on product shelf-life)
- product and packaging coding requirements and related legal requirements, including product weight
- basic operating principles of forming, filling and sealing equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and services required for operation of form, fill and seal equipment used in the workplace
- the flow of processes supplying the forming, filling and sealing process and the effect of process output on downstream processes
- quality characteristics and requirements of forming, filling and sealing, such as quality requirements of product and packaging components/consumables, requirements of packaging forming stage, filling, including fill levels and weights, and requirements of seal formation and integrity, and integrity testing procedures, where required
- methods used to monitor the process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including restart procedures following a crash or jam up
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required, including the effect of variation in both product characteristics and packaging components/consumables on forming, filling and sealing performance
- food safety hazards and risks associated with forming, filling and sealing and related control measures
- occupational health and safety (OHS) hazards and controls

REQUIRED SKILLS AND KNOWLEDGE

- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/packaging changeover procedures
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the forming, filling and sealing process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- aseptic container preparation/forming, filling and sealing requirements where relevant
- sampling and testing procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for forming, filling and sealing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production/packaging schedules • information on equipment capacity and operating parameters • specifications, control points and operating parameters • forming, filling and sealing process and related equipment and services • materials and packaging components/consumables to be formed, filled and sealed • product • sampling schedules and test procedures and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	<p>procedures</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements

Legislative requirements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:

- the Food Standards Code, including labelling, weights and measures legislation
- legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity

When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production schedules and instructions
- manufacturers' advice
- standard forms and reports

Forming, filling and sealing equipment

Forming, filling and sealing equipment may include:

- pumps
- gable top fillers
- film fillers
- hermetic sealers
- bulk bag fillers
- aseptic packaging

RANGE STATEMENT	
	<ul style="list-style-type: none"> • aseptic plastic pouches • aseptic carton systems • aseptic form, fill and seal equipment • aseptic bottle fillers/cappers • bag-in-box filler • bag forming and filling machines
Typical containers formed by this process	<p>Typical containers formed by this process include:</p> <ul style="list-style-type: none"> • cartons • pouches • boxes • bags <p>Where bottles are formed as part of this process, also refer to PMBPROD211B Operate blow moulding equipment and PMBPROD270B Operate injection blow moulding equipment</p>
Packaging	<p>Packaging may include:</p> <ul style="list-style-type: none"> • vacuum packing • modified atmosphere packaging (MAP)
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services are appropriate to the process to be operated. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • inert gas (where gas flushing is used) • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2021A Operate a fill and seal process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a fill and seal process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a filling and sealing process and associated equipment. This is a primary packaging process to fill product into packaging, such as bottles, boxes, drums, bladders and pails. This unit can apply to both aseptic and non-aseptic filling and sealing processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the filling and sealing equipment and process for operation	1.1. Materials and packaging components/consumables are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the filling and sealing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Packaging quality and seal integrity are monitored to confirm that specifications are met 2.5. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the filling and sealing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify filling and packaging requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary packaging components/consumables, product and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for packaging requirements, loading packaging components/consumables, positioning sensors and controls correctly, ensuring any scheduled maintenance has been completed, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the filling and sealing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - flow rates
 - product weights and volumes
 - fill levels
 - times and temperatures, including product and sealing temperatures
 - supply of packaging components/consumables
 - packaging quality and seal integrity, such as testing seal integrity
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take filling and sealing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare filling and sealing equipment for cleaning
- demonstrate product/process changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- demonstrate aseptic filling and sealing according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as

REQUIRED SKILLS AND KNOWLEDGE

specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of filling and sealing, including the purpose and characteristics required of packaging materials used and the method used to fill and seal product (where methods involve vacuum or map packaging, it includes an understanding of the effect of modified atmosphere on product shelf-life)
- product and packaging coding requirements and related legal requirements including product weight
- basic operating principles of filling and sealing equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and services required for operation of filling equipment used in the workplace
- the flow of processes supplying the filling and sealing process and the effect of outputs on downstream processes
- quality characteristics and requirements of filling and sealing, such as quality requirements of product and packaging components/consumables, requirements of filling including fill levels and weights, requirements of seal formation and integrity, and integrity testing procedures, where required
- methods used to monitor the process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including procedures to clear a breach and restart following a crash or jam up as appropriate
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required, including the effect of variation in both product and packaging components/consumables on filling and sealing performance, such as the effect of temperature variation on the filling process
- food safety hazards and risks associated with filling and sealing and related control measures
- occupational health and safety (OHS) hazards and controls
- requirements of, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/packaging changeover procedures

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• procedures and responsibility for reporting production and performance information• environmental issues and controls relevant to the filling and sealing process, including waste/rework collection and handling procedures related to the process• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• aseptic filling and sealing requirements where relevant• sampling and testing procedures where relevant• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for filling and sealing
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems and production/packaging schedules
- information on equipment capacity and operating parameters
- specifications, control points and operating parameters
- filling and sealing process and related equipment and services
- materials and packaging components/consumables to be formed and filled
- product
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and

EVIDENCE GUIDE	
	<p>procedures</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Filling and sealing equipment	<p>Filling and sealing equipment may include:</p> <ul style="list-style-type: none"> • pumps • fillers, including aseptic bottle fillers • hermetic sealers • bag fillers • aseptic packaging • seamers • level detection equipment

RANGE STATEMENT	
	<ul style="list-style-type: none"> conveyors <p>Related processes depend on product requirements and may include:</p> <ul style="list-style-type: none"> product preparation equipment, such as mixers, blenders, carbonators, heat exchangers, chillers and crystallisers
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Packaging	<p>Packaging may include:</p> <ul style="list-style-type: none"> vacuum packing modified atmosphere packaging (MAP)
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services are appropriate to the process to be operated. Typical examples include:</p> <ul style="list-style-type: none"> power steam water vacuum inert gas (where gas flushing is used) compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFO2022A Operate a high speed wrapping process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a primary packaging process using high speed wrapping equipment to enclose product in a sealed, airtight film/cello package
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a high speed wrapping process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the wrapping equipment and process for operation	1.1. Materials and packaging components/consumables are confirmed and available to meet production requirements 1.2. Pre-start checks are carried out on process and related equipment to confirm readiness for use 1.3. Packaging components/consumables are loaded/positioned to meet requirements 1.4. Parameters are set to meet safety and packaging requirements
2. Operate and monitor the wrapping process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Packaging quality and seal integrity is monitored to confirm that specifications are met 2.5. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the wrapping process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify wrapping requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary packaging materials/film/cello and product, such as inspecting the quality of both product and wrapping material to confirm that standards are met
- conduct pre-start checks, such as inspecting equipment and conveyor belt condition to identify any signs of wear, selecting appropriate settings and/or related parameters to suit product type, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for packaging requirements, loading/threading packaging components/consumables, positioning electronic eyes and sensors correctly, ensuring all safety guards are in place and operational, and confirming coders are correctly set for date and product requirements
- start, operate, monitor and adjust wrapping equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - product alignment
 - product weights
 - packaging quality
 - packaging and product alignment
 - seal integrity, such as testing packaging integrity
 - codes-correct content and clarity/legibility
- monitor flow of product to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take high speed wrapping process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare wrapping equipment and conveyors for cleaning
- demonstrate product/packaging changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of wrapping, including the properties and requirements of packaging materials used, coding requirements and related legal requirements (e.g. product weight)
- basic operating principles of wrapping equipment, such as main equipment components (e.g. conveyors and related guides and alignment adjustments), purpose and location of electronic eyes and sensors, status and purpose of guards, equipment operating capacities and applications, and services required for operation of wrapping equipment used in the workplace
- the flow of product to the wrapping process and the effect of outputs on downstream processes
- quality characteristics and requirements of product to be wrapped, wrapping materials and the final wrapped product
- methods used to monitor the process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required, including the effect of variation in both product and packaging components/consumables on performance
- contamination/food safety hazards and risks associated with the wrapping process and related control measures
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/packaging changeover procedures
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the filling and wrapping process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• sampling and testing procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for high speed wrapping • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems and production/packaging schedules • information on equipment capacity and operating parameters • specifications, control points and operating parameters • high speed wrapping machine and related equipment and services • materials to be wrapped, cello/film and other packaging components/consumables • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements

Legislative requirements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:

- the Food Standards Code, including labelling, weights and measures legislation
- legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity

When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production schedules and instructions
- manufacturers' advice
- standard forms and reports

High speed wrapping processes and related equipment

A high speed wrapping process and related equipment may include:

- conveyor systems transferring product to and from wrappers
- wrapper
- check weighers
- metal detectors
- ink jet coders

RANGE STATEMENT	
	Related processes typically involve: <ul style="list-style-type: none"> secondary packing into boxes, bags or other containers
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2023A Operate a packaging process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a packaging process or sub-system.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing packing environment. It typically targets the worker responsible for applying basic operating principles to the operation and monitoring of a packing process and associated equipment. This unit is generic and should be customised for a given process. It should only be selected where no specific packaging unit is available.</p> <p>A packaging process may relate to primary and/or secondary packaging activities. It typically requires the operation of a series of related items of equipment to achieve the required outcome.</p> <p>Where a single item of packaging equipment is operated, refer to FDFOP1005A Operate basic equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the equipment and process for operation	1.1. Packaging components/consumables, materials and items to be packaged are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Operating parameters are entered as required to meet safety and production requirements 1.5. Materials, product and packaging components/consumables are loaded or positioned as required to meet packaging requirements 1.6. Equipment performance is checked and adjusted as required 1.7. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify packaging requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary packaging components/consumables, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, setting coders and printers, selecting appropriate equipment settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for packaging requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been completed, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust packaging equipment to achieve required outcomes., such as packaging components/consumables and/or product, and monitoring control points (e.g. weights, codes, placement, glue temperatures, alignment and appearance, configuration and seal integrity) as required to confirm process remains within specification
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take packaging equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/process changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- integrity testing of packaging according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of:

- purpose and basic principles of the packaging process, including the purpose and characteristics required of packaging materials used and the principles of the packaging process used (where methods involve vacuum or map packaging, it includes an understanding of the effect of modified atmosphere on product shelf-life)
- product and packaging coding requirements and related legal requirements, including product weight
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of processes supplying the packaging process and the effect of outputs on downstream processes
- quality characteristics required of the packaging process, such as seal integrity requirements
- effect of variation in inputs, such as packaging components/consumables, materials and/or services, on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including restart procedures following a crash or jam up
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the packaging process, such as visual inspecting, and measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks related to stages in the packaging process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the packaging process, including emergency and routine shutdowns and procedures to follow in the event of a power outage, and conducting basic equipment referencing where required
- product/packaging changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• routine maintenance procedures where relevant• packaging integrity testing where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for packing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • specifications, control points and operating parameters • packaging and related equipment and services • materials to be packaged and packaging components/consumables as required • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment• FDFOP2011A Conduct routine maintenance• FDFOP2013A Apply sampling procedures• FDFOP2030A Operate a process control interface• MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements

Legislative requirements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:

- the Food Standards Code, including labelling, weights and measures legislation
- legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity

When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production schedules and instructions
- manufacturers' advice
- standard forms and reports

Typical equipment

Typical equipment that may form a packaging sub-system includes:

- conveyor systems
- filling
- sealing
- wrapping
- thermo-form equipment
- case packers

RANGE STATEMENT	
	<ul style="list-style-type: none"> • bundlers • ink jet coders • labellers • palletisers • shrink wrappers • strappers
Packaging	Packaging may include: <ul style="list-style-type: none"> • vacuum packing • modified atmosphere packaging (MAP) • blister packaging or over wrapping
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2024A Operate a cooling, slicing and wrapping process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a cooling, slicing and wrapping process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to cool, slice and wrap product, such as bread.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the cooling, slicing and wrapping equipment and process for operation</p>	<p>1.1. Product and packaging consumables are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the cooling, slicing and wrapping process</p>	<p>2.1. The cooling, slicing and wrapping process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that product is cooled and packaged to meet specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the cooling, slicing and wrapping process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down and cleaned according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product, packaging consumables and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm settings in the cooler, such as:
 - conveyor speed/track position
 - humidity
 - air flow/fan settings
 - product layout/spacing
 - settings in the slicing/bagging equipment:
 - knife condition
 - machine speed
 - height/width settings
 - air pressure
 - bag/tag type and coding
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification
- monitor supply and flow of product and packaging consumables to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the cooling, slicing and wrapping process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the cooling, slicing and wrapping process and the effect of outputs on downstream processes and final product
- quality characteristics to be achieved by the process
- quality requirements of packaging materials and effect of variation on process performance and product shelf-life
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the cooling, slicing and bagging process, such as inspecting and measuring as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for cooling, slicing and wrapping
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- cooling, slicing, bagging and related equipment and services
- product and packaging consumables
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment• FDFOP2011A Conduct routine maintenance• FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • materials transfer equipment, such as conveyors and trolleys • cooler • slicer • bagging and bag closing equipment • metal detector • scales
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples

RANGE STATEMENT

	include: <ul style="list-style-type: none"> • power • compressed and instrumentation air
--	--

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2025A Manufacture extruded and toasted products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down an extrusion, toasting and breaking process used in the manufacture of biscuit products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a biscuit production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment in the production of biscuits. Biscuits may be for human consumption or animal feed.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the extrusion, toasting and breaking process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the extrusion, toasting and breaking process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that biscuit product meets specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the extrusion, toasting and breaking process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify extrusion, toasting and breaking process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including ensuring a continuous supply of ingredients to the process
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm extruder settings, such as:
 - water pump is operating
 - bin discharge speed
 - temperature and heater
 - motor speed
 - screw feed
- start, operate, monitor and adjust process equipment to achieve required outcomes., including monitoring control points and conducting inspections as required to confirm the process remains within specification, such as:
 - temperatures
 - biscuit size (width, length and thickness)
 - biscuit texture, colour and weight
 - biscuit moisture level
 - clean, even break/cut
- monitor supply and flow of materials to and from the extrusion, toasting and breaking process
- take corrective action in response to out-of-specification results
- conduct batch/product changeovers
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- shut down equipment in response to an emergency situation
- follow isolation and lock out/tag out procedures as required to take extrusion, toasting and breaking process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility

REQUIRED SKILLS AND KNOWLEDGE

- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- take samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each stage of the biscuit manufacturing process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the process and the effect of outputs on downstream processes
- changes which occur in product during processing
- quality characteristics to be achieved by the process
- quality requirements of materials and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• cleaning and sanitation procedures where relevant• sampling and testing associated with process monitoring and control where relevant• routine maintenance requirements and procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for biscuit manufacture • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule and recipe/batch instructions • extrusion, toasting and breaking process and related equipment and services • specifications, control points and processing parameters • ingredients to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • mixers • sieves • extrusion • toasting and breaking equipment
Materials	<p>Materials include:</p> <ul style="list-style-type: none"> • pre-mixed dry ingredients and water
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2026A Operate a forming or shaping process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a biscuit forming or shaping process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a biscuit production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment to form and shape biscuit dough. Biscuits may be for human consumption or animal feed.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the biscuit forming process for operation</p>	<p>1.1. Materials and ingredients are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing or operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the biscuit forming process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that formed product is produced to specification</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the biscuit forming process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify biscuit forming process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply and condition of necessary materials and services, such as transferring and loading dough into hoppers
- confirm condition of dough, such as:
 - dough type matches product specification
 - dough temperature, consistency/texture, moisture level, weight and colour
 - dough standing time
 - dough supply/quantities
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm setting selection, such as:
 - setting parameters for process type
 - setting equipment speeds
 - adjusting roller and web settings (as required)
 - adjusting depositing/extrusion settings (as required)
- start, operate, monitor and adjust process equipment to achieve required outcomes, including control points and conducting inspections as required to confirm process remains within specification, such as:
 - biscuit size, shape and thickness
 - biscuit weight
 - dough temperature
- form product to specification, such as conducting a trial run in preparation for production run
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- conduct product/batch changeovers
- locate emergency stop functions on equipment
- shut down equipment in response to an emergency situation

REQUIRED SKILLS AND KNOWLEDGE

- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- take samples and conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of biscuit forming
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the biscuit forming process and the effect of outputs on downstream processes
- effect of dough quality on process outcomes
- quality characteristics to be achieved by the process
- quality requirements of materials and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including procedures for incorporating rework dough and procedures for mending webs as required
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage

REQUIRED SKILLS AND KNOWLEDGE

- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- cleaning and sanitation procedures where relevant
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for biscuit dough forming and shaping • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule and recipe/batch instructions • specifications, control points and processing parameters • forming process and related equipment and services • biscuit dough to be formed • sampling and testing schedules and procedures, as required • sampling schedules and test procedures and equipment, as required • documentation and recording requirements and

EVIDENCE GUIDE	
	<p>procedures</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment, as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • depositing, rolling, forming and cutting equipment • manual and automated weighing and measuring equipment • conveying systems
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT	
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2027A Dispense non-bulk ingredients

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to weigh, measure and label non-bulk ingredients to meet production requirements.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a production environment within the food processing industry. It typically targets the production worker responsible for the dispensing of ingredients in order to support production operations. Ingredients may be highly concentrated materials, such as colours, flavours, buffered acids and preservatives.</p> <p>Where therapeutic ingredients used are dispensed, refer to FDFPH2009A Dispense pharmaceutical raw materials.</p> <p>Where preparation requires preparation of dry or liquid pre-mixes, refer to FDFOP2041A Operate a mixing or blending and cooking process.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to dispense ingredients	1.1. Materials are inspected to confirm type, quality clearance, quantities and identify any obvious contamination or non-compliance 1.2. Measuring and weighing equipment is selected appropriate to dispensing requirements and checked to confirm readiness for use 1.3. Containers, bags and labels are available as required 1.4. Pre-start checks are carried out as required by workplace requirements
2. Measure and/or weigh ingredients	2.1. Non-bulk ingredients and additives are weighed or measured to meet production requirements 2.2. Dispensed ingredients are labelled according to workplace procedure 2.3. Accuracy of measuring and dispensing equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The work area is maintained according to housekeeping standards 2.6. Work is conducted in accordance with workplace environmental guidelines
3. Complete the dispensing process	3.1. Dispensing equipment is cleaned according to workplace procedure 3.2. Unacceptable equipment and utensil condition is identified and reported 3.3. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify dispensing requirements
- select, fit and use personal protective clothing and/or equipment, such as use of breathing apparatus and fume cabinets as required
- confirm supply of necessary raw materials, such as checking ingredient type, grade, quantity, use-by codes and quality clearance
- carry out visual inspections and tests as required to confirm that raw materials are appropriate for use
- conduct pre-start checks on equipment, such as inspecting the condition and cleanliness of equipment and utensils, taring scales and carrying out any related procedures to confirm that equipment is accurately calibrated and fit for use, and confirming that any scheduled maintenance has been carried out
- identify out-of-specification or unacceptable ingredient condition and take appropriate corrective action
- measure materials and additives within specified accuracy range
- take corrective action in response to out-of-specification results
- pace dispensing to meet production requirements
- pack and label dispensed materials as required
- follow labelling procedures, such as identifying batch numbers, dates of preparation, contents and use-by information
- reconcile and record materials dispensed against materials released and return unused materials to storage as required
- clean dispensing equipment and utensils according to workplace procedures
- respond to and/or report equipment failure within level of responsibility
- complete dispensing records as required by workplace recording system
- maintain work area to meet housekeeping standards
- use basic equipment to support the dispensing process according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- quality characteristics and related handling requirements of raw materials/ingredients and additives used, such as best-by/use-by codes, ingredient compatibility and common allergens used
- storage requirements and shelf-life of ingredients and additives, including ingredients with special storage and handling requirements, such as hygroscopic ingredients
- relevant legislative responsibilities and workplace systems for recording and tracing the use of ingredients and additives and related workplace labelling requirements and purpose
- the relationship between the dispensing process and related operations, including accuracy and tolerance and consequence of error
- purpose, measuring and accuracy capacity of instrumentation and related equipment calibration responsibilities and procedures
- control points in the dispensing process
- contamination and food safety issues associated with dispensing and related control measures
- procedures for requisitioning, receiving and returning ingredients from stores
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- cleaning, care and storage of equipment and instrumentation used
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the dispensing process, including waste collection and handling procedures related to the process
- sampling and testing where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on ingredients and equipment used for dispensing
- accurately weigh or measure ingredients to ensure specifications are met
- take corrective action in response to inconsistencies
- correctly label ingredients
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- apply food safety procedures.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, batch and recipe instructions
- information on equipment and instrumentation capacity and operating parameters
- dispensing schedule or batch instructions
- dispensing instrumentation and equipment
- containers, bags, labelling and storage facilities
- raw materials, ingredients and additives to be dispensed
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning and sanitation procedures, materials and

EVIDENCE GUIDE	
	equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP1005A Operate basic equipment • FDFOP2004A Clean and sanitise equipment • FDFOP2013A Apply sampling procedures • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production/dispensing schedules and instructions batch/recipe instructions manufacturers' advice standard forms and reports
Dispensing equipment	Dispensing equipment may include: <ul style="list-style-type: none"> scales pipettes calibrated measuring containers fume cabinets labels/printers and related dispensary instrumentation
Materials dispensed	Materials dispensed may include: <ul style="list-style-type: none"> non-bulk ingredients and additives <p>Non-bulk additives may be highly concentrated</p>

RANGE STATEMENT

	materials, such as:
	<ul style="list-style-type: none"> • colours • flavours • buffered acids • preservatives

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFO2028A Operate a mixing or blending process

Modification History

Not applicable.

Unit Descriptor

<p>Unit descriptor</p>	<p>This unit of competency covers the skills and knowledge required to combine ingredients and additives in the correct quantities and sequence and to operate and shut down mixing and blending equipment to achieve the required mix characteristics.</p>
-------------------------------	---

Application of the Unit

<p>Application of the unit</p>	<p>This unit has application in a production environment within the food processing industry. Mixes may include concentrated pre-mixes or bulk blends. The output of this process may be a product requiring further processing or for external use.</p> <p>This unit is appropriate to select where the mixing or blending process is a stand-alone process and involves an understanding of addition method and sequence. Where mixing is an in-line component of a larger process, this unit is not appropriate. Where the mixing process does not require a detailed understanding of sequencing or ingredient characteristics, FDFO1004A Prepare basic mixes, may be more appropriate.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFO2011A Conduct routine maintenance, should be selected.</p>
---------------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the mixing or blending equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet production requirements</p> <p>1.2. Pre-mixes are prepared as required</p> <p>1.3. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.4. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.5. Processing or operating parameters are entered as required to meet production requirements</p> <p>1.6. Equipment performance is checked and adjusted as required</p> <p>1.7. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the mixing or blending process</p>	<p>2.1. Ingredients and additives are delivered to the mixer in the required quantities and sequence to meet recipe specifications</p> <p>2.2. The mixing or blending process is started and operated according to workplace procedures</p> <p>2.3. Equipment is monitored to identify variation in operating conditions</p> <p>2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.5. The mixing process is monitored to confirm that specifications are met</p> <p>2.6. Out-of-specification product or process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.7. Mix is transferred to required production or storage location</p> <p>2.8. The work area is maintained according to housekeeping standards</p> <p>2.9. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.10. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the mixing or blending process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and</p>

ELEMENT	PERFORMANCE CRITERIA
	reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify mixing/blending requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- add/load materials in correct quantities and sequence, such as monitoring automatic ingredient addition and/or manual addition
- start, monitor and adjust mixing or blending process equipment to achieve required outcomes, including monitoring flow rates/quantity, time or temperature and mix/blending settings
- monitor/control points and conduct inspections as required to confirm process remains within specification
- monitor supply and flow of ingredients and additives to and from the mixing or blending process
- pace mixing/blending to meet production requirements
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out or tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- demonstrate batch or product changeovers
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- label and store pre-mixes and/or mixes according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of preparing mixes and blends, including the characteristics and basic function of ingredients and additives used, method and sequence of ingredient addition required to achieve required blend characteristics, and where relevant, the purpose of conditioning, maturation or holding stages required prior to further processing of the mix
- basic understanding of specific gravity and bulk density as appropriate for ingredients used
- basic operating principles of mixing/blending equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and awareness of calibration schedules for scales and related weighing/measuring equipment
- services required and action to take if services are not available
- the flow of the mixing process and the effect of mix preparation on downstream processes
- procedures for requisitioning, receiving and returning ingredients from stores
- ingredient handling requirements and shelf-life or coding
- quality characteristics required of ingredients and additives and their effect on mixing process performance, including methods used to condition or prepare ingredients prior to addition
- methods used to monitor the blending or mixing process, including inspecting, measuring, and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements, such as:
 - flow rates
 - ingredient/additive addition sequence
 - times/temperatures and agitator speeds
 - required characteristics of blend, such as viscosity, appearance and temperature
- required attributes of the mixed or blended output, such as chemical, texture and flavour profiles as required
- the effect of the mixing or blending parameters, such as temperature and length of mix time on mixing outcome
- contamination and food safety risks associated with the process and related control measures, including product compatibility and cross contamination risks and associated cleaning requirements, as well as common allergens used in mixes prepared
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters

REQUIRED SKILLS AND KNOWLEDGE

- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the blending or mixing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product or process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the mixing or blending process, including waste or rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- characteristics of solutions, suspensions and emulsions where relevant
- sampling and testing associated with process monitoring and control where relevant
- product labelling and storage requirements where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare premixes for mixing or blending • conduct pre-start checks on machinery used for mixing or blending • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, batch/recipe instructions • information on equipment capacity and operating parameters • production schedule/batch/recipe instructions • specifications, control points and processing parameters • mixing/blending process equipment, services and related storage facilities as required • ingredients and additives required for the mixing/blending process • sampling schedules and test procedures and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface PMLTEST300B Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • consignment notes • verification procedures • standard forms and reports
Mixing or blending equipment	<p>Equipment typically includes:</p> <ul style="list-style-type: none"> • measuring and weighing equipment, such as scales, load cells • dosing equipment • mixers • pumps • in-line homogenisers

RANGE STATEMENT	
	<ul style="list-style-type: none"> • conveyors • bulk materials transfer and materials handling equipment • storage facilities <p>Common mixer types include:</p> <ul style="list-style-type: none"> • ribbon and vertical screw mixers/conveyors
Mixes	<p>Mixes typically includes:</p> <ul style="list-style-type: none"> • concentrated pre-mixes • pastes and cocktails • bulk mixes/blends <p>Materials may include:</p> <ul style="list-style-type: none"> • bulk and non-bulk ingredients and additives
Processes	<p>Where this unit applies to preparation of dough, related processes may include:</p> <ul style="list-style-type: none"> • extruding • stamping • cutting <p>Where this unit applies to cake and confectionery mix preparation, related processes may include:</p> <ul style="list-style-type: none"> • aeration
Ingredient addition	<p>Ingredient addition may involve operation of:</p> <ul style="list-style-type: none"> • automatic materials transfer equipment • dosing equipment and/or be manually loaded
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services are appropriate to the process to be operated. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • fuel • vacuum

RANGE STATEMENT	
	<ul style="list-style-type: none"> compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2029A Operate a baking process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down processes used to bake and de-pan baked products.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production workplace. It typically targets the production worker responsible for producing baked products that may include pastry, biscuits, cake and other dough-based products and may be fresh or frozen.</p> <p>This unit does not apply to production of bread. For bread baking refer to the relevant plant baking and/or retail baking units of competency.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the baking equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Materials are prepared to meet production requirements 1.3. Services are confirmed as available and ready for operation 1.4. Equipment performance and pans are checked and adjusted as required 1.5. The process is set to meet safety and production requirements
2. Operate and monitor the baking process	2.1. The baking process is started and operated according to workplace procedures 2.2. Product is loaded into oven and baked to specification 2.3. Equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The process is monitored to confirm that specifications are met 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the baking process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify baking process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm condition and quality of ingredients
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational, and rework bins are positioned
- confirm settings and parameters, including:
 - correct oven settings are selected for baking time, oven zone temperatures, conveyor speed, loaders and dischargers, circulation and exhaust fans, water seals, burner controls and steam as required
 - heights, guides and air blowers, and pre-blast conveyor are correctly set
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - baking output, including quantities and product appearance (colour and sheen, uniformity of shape, weight and size and moisture)
 - confirming product is cleanly removed from the pan (depanning stage) and/or belt/band as required
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- sort, collect, treat, recycle or dispose of waste, including clearing dust extractors
- complete workplace records as required
- maintain work area to meet housekeeping standards
- set up, start up and monitor the proofer, such as time and temperature, humidity, and position of the loading arm
- monitor the proving process according to enterprise procedures, including dough

REQUIRED SKILLS AND KNOWLEDGE

condition/surface and dough size and height

- set up and operate finishing equipment according to enterprise procedures, including setting topping application equipment, water sprays and splitters (monitoring typically involves checking appearance to confirm even coverage and/or finish as required by product specification)
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each stage of the baking process, including the stages of the baking process and changes that occur in the product, such as starch gelatinisation, the effect of variables (e.g. time, temperature and humidity), and oven zones as appropriate to oven type
- basic operating principles of equipment, including the difference between convection and impingement ovens, main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the baking process and the effect of outputs on customer satisfaction and downstream processes, such as packaging
- quality requirements of materials and effect of variation on baking process performance
- quality characteristics to be achieved by the baked product
- process specifications, procedures and operating parameters for different baked pastry products
- operating requirements, parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the baking process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the baking process and the related procedures and recording requirements, such as the ability to conduct dew point and/or wet bulb tests as required
- contamination/food safety risks associated with the baking process and related

REQUIRED SKILLS AND KNOWLEDGE

control measures

- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including risks of spontaneous combustion and limitations of protective clothing and equipment used
- requirements of different shutdowns as appropriate to the baking process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- baking process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the baking process, including waste/rework collection and handling procedures related to the process
- purpose and operating procedures for related processes, such as in-line proving and finishing equipment where relevant
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for bake products • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • specifications, control points and processing parameters • production schedule and recipe/batch instructions • baking and depanning equipment and services, and related equipment as required • product to be baked • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • PMLTEST300B Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Product	<p>Product includes, but is not limited to:</p> <ul style="list-style-type: none"> • pastry • biscuits • cake • other dough-based products and may be fresh or frozen
Equipment	<p>Equipment typically includes:</p> <ul style="list-style-type: none"> • in-line provers • ovens • trolleys • oven trays/tins • depanning equipment • cooling tunnels

RANGE STATEMENT	
	<ul style="list-style-type: none"> finishing equipment
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> power steam compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2030A Operate a process control interface

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to operate a computer-based interface to modify and/or interrogate a control system.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit typically targets skills required by a production worker to operate equipment using process control interface.</p> <p>Work may require the ability to work within a team environment</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Navigate the process control interface	1.1. The readiness of the control interface and related components for operation are confirmed 1.2. Hardware provided is used to operate the interface 1.3. Page links are used to move between screens 1.4. Messages and alarms are acknowledged 1.5. Required information is accessed from screen displays 1.6. Interface system malfunctions are recorded and reported in accordance with workplace procedures
2. Use interface system to operate and maintain a process within required parameters	2.1. Individual items of equipment and/or processes are started, monitored and shutdown using the control interface 2.2. Equipment is selected, status altered and settings entered to meet operating requirements 2.3. Sequences are activated to initiate process operation 2.4. Equipment giving a bad signal or bad measurements is recognised and responsive action taken
3. Analyse data to predict and control performance	3.1. Trends are selected and analysed to identify performance patterns 3.2. Causes of abnormal or unacceptable performance are identified and corrective action taken 3.3. Information is recorded as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- use all hardware components to operate the control interface
- navigate the system to locate and use information required, including moving between screens and locating relevant performance data
- operate the control system using the interface, including start up and shut down equipment components and change set points as required
- locate sensors and instrumentation providing input signals to the control system and confirm operating order within level of responsibility
- recognise and respond to error messages and alarms as required
- access relevant performance data using the control system, including locating and interpreting performance trend information
- record log information using the interface system according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- processes and equipment being controlled, including required processing sequences
- operating principles of process control and interface system, including the relationship between control panels, systems and the physical equipment, and where relevant understanding of the operating conditions required for accurate information input from sensors and related instrumentation
- action required to respond to error messages and alarms
- typical faults that can occur when operating a process control interface and corrective action required
- performance data collected by the control interface system and its application to troubleshoot performance, including the ability to identify and investigate related trend data to track cause and effect
- recording requirements and responsibilities

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • operate and navigate interface to access, retrieve, enter and store work data • start, operate, monitor and shut down process equipment • control and adjust equipment using control interface to achieve production requirements • recognise faults and inconsistencies and take corrective action • complete workplace records as required • apply safe work practices and identify OHS hazards and controls.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • process control interface hardware and software • work station or equipment to be controlled • operating procedures and related advice on equipment operation • process to be controlled • communication systems and equipment • workplace information recording systems, requirements and procedures.
Method of assessment	This unit should be assessed together with other core units or other units of competency relevant to the work role. This includes the relevant operational units for the process being controlled.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where

EVIDENCE GUIDE

possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, manufacturers' recommendations, legislative requirements, codes of practice and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • manufacturers' specifications
Information accessed	<p>Information accessed may include:</p> <ul style="list-style-type: none"> • graphics, trends • parameter settings • alarms • individual plant item status
Computer-based interface	<p>A computer-based interface may consist of:</p> <ul style="list-style-type: none"> • computer processor • monitor • keyboards • track ball • mouse • storage devices • printers <p>(It is linked to the process control system)</p>

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFOP2031A Operate a coating application process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down processes to dust and apply coatings to product.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production workplace. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a coating process and associated equipment.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the coating process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the coating process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the coating process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- prepare coating materials as required
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust coating equipment to achieve required outcomes (this will depend on the nature of coating materials), such as:
 - condition of coating materials, such as checking grist/particle shape and size, checking for dough balls or lumps in flour-based breaders
 - viscosity and temperature of batter-type breaders and glazes
 - condition of product to be coated (this may include shape and temperature)
 - product orientation/indexing
 - conveyor positions and speeds
 - drum speed
 - compression roller settings (drum applicator)
 - dip pond levels
 - air blow off settings
 - spread/evenness of coating
- monitor supply and flow of materials to and from the coating process
- take corrective action in response to out-of-specification results
- conduct product/batch changeovers
- report and/or record corrective action as required
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare equipment for cleaning
- respond to and/or report equipment failure within level of responsibility
- complete workplace records as required

REQUIRED SKILLS AND KNOWLEDGE

- maintain work area to meet housekeeping standards
- prepare breaders and glazes according to enterprise procedures
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of coating, including coating process, process design and operation to achieve the coating requirements, related requirements of product and coating condition and equipment settings
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- quality characteristics to be achieved by the coating process
- the flow of the coating process and the effect of product output on downstream processes
- quality requirements of coating materials and product to be coated and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the coating process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance

REQUIRED SKILLS AND KNOWLEDGE

information

- environmental issues and controls relevant to the coating process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on equipment used for product coating • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule, batch/recipe instructions • coating process and related equipment and services • coating materials and product • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of</p>

EVIDENCE GUIDE	
	<p>competency relevant to the work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP1004A Prepare basic mixes • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • FDFOP2049A Operate a reduction process • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Coating processes	<p>Coating processes include:</p> <ul style="list-style-type: none"> pre-dusting batter and breading application of marinades and glazes <p>These may be configured in sequence and/or involve multiple passes according to coating requirements Related processes may include:</p> <ul style="list-style-type: none"> batter preparation and crumb preparation <p>Refer to FDFOP1004A Prepare basic mixes, for batter preparation, and FDFOP2049A Operate a reduction process, for crumb preparation</p>
Coating materials	Coating materials include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pre-dusts (usually finely ground) • grain-based material or dry batter • standard batters • tempura batter • wash batter • breaders, including flour, cracker meal, crumb, and marinades and glazes
Coating application equipment	<p>Coating application equipment may include:</p> <ul style="list-style-type: none"> • dip-type batter applicators, • top curtain/underflow applicators (enrobers) • standard breaders (belt-based with compression roller), including single belt (non-flip) and flip applicators, • drum breaders
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <p>Cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)</p>
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFOP2032A Work in a clean room environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to gown-up, enter and work in a clean room environment and de-gown to minimise contamination risks.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a food processing production environment. It typically targets the production worker responsible for conducting work according to clean room standards.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS2001A	Implement the food safety program and procedures OR
	FDFPH2001A	Apply Good Manufacturing Practice procedures

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to enter a clean room environment	1.1. Appropriate clothing and footwear are identified and available 1.2. Clothing and footwear are correctly fitted and inspected prior to entering a clean room 1.3. Hand washing and disinfecting procedures are followed according to workplace procedure
2. Work in a clean room environment	2.1. Workplace procedures are followed to enter a clean room environment 2.2. Work activities are conducted so as to minimise risk of contamination
3. Exit a clean room environment and de-gown	3.1. Workplace procedures are followed to exit a clean room environment 3.2. Protective clothing and footwear is removed according to workplace procedure 3.3. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to determine clean room work requirements
- confirm that protective clothing and footwear are appropriate for use
- follow procedures to fit and inspect protective clothing and footwear
- follow procedures to enter a clean room environment, including following appropriate hand washing, disinfecting procedures and fitting gloves as required
- conduct work in a manner appropriate to minimising risk of contamination, including following procedures for sterilising and disinfecting equipment and surfaces as required
- exit the clean room environment according to workplace procedures
- remove protective clothing and footwear in correct sequence and deposit for laundering according to workplace procedures
- complete records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and conditions required in a clean room environment, including how the clean room maintains a clean environment and related airflow systems
- preparation and handling requirements for garments and footwear worn in a clean room environment, including garment features appropriate to a clean room environment and inspection procedure to confirm clothing and footwear are fit for use prior to fitting
- inspection points to confirm that clothing and footwear are correctly fitted according to workplace procedures
- procedures to follow if garments are not fit for use
- clean room control measures and related monitoring requirements, such as pressure differences between the clean room and change room and knowledge of location of pressure gauges, and checking operating conditions of ventilation systems where required
- entry procedures
- requirements for conducting work in a clean room and consequences of not complying with these requirements (typically work is conducted slowly to

REQUIRED SKILLS AND KNOWLEDGE

- minimise disturbance of particulates)
- procedures to follow to minimise risk of contamination including cleaning, sanitation, sterilisation and disinfecting of equipment and surfaces
- conditions which can cause contamination, and control measures to avoid this occurring
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- procedures for exiting and de-gowning
- laundering requirements and procedures
- housekeeping requirements for work area
- recording requirements and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare to work in a clean room environment through the correct application of required clothing and footwear • conduct work according to clean room work standards • follow hand washing procedures • exit room according to clean room standards • apply safe work practices and identify OHS hazards and controls.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • protective clothing, footwear and equipment appropriate to a clean room • work procedures relevant to working in a clean room environment, including those specific to entering and exiting the clean room and to carrying out the relevant work function • a clean room environment • documentation and recording requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, licensing requirements, legislative requirements, and industrial awards and agreements. When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Clean room	<p>A clean room refers to any environmentally graded work area</p>
Multiple gowning processes	<p>Multiple gowning processes may be required</p>
Protective clothing and footwear	<p>Protective clothing and footwear are fit for purpose and appropriate to a clean room environment</p>

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2033A Operate a depositing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required set up, operate, adjust and shut down a depositing process to deposit into tins, onto belts or directly onto product, where a further processing outcome is required.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a depositing process and associated equipment.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out unit FDFOP2011A Conduct routine maintenance should be selected.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the depositing equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements 1.7. Materials are transferred to depositing equipment
2. Operate and monitor the depositing process	2.1. The depositing process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The depositing process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the depositing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- Access workplace information to identify depositing processing requirements
- Select, fit and use personal protective clothing and/or equipment
- Confirm supply of necessary materials and services as required for production. This may include confirming condition of materials including temperature, texture, appearance and holding times prior to use
- Conduct pre-start checks. This may involve inspecting equipment condition to identify any signs of wear; selecting appropriate settings and/or related parameters. This may include setting up depositor manifold and controls to meet production requirements and cancelling isolation or lockouts as required. Confirm that related equipment is clean; correctly configured for processing requirements; sensors and controls are correctly positioned; any scheduled maintenance has been carried out, and that all safety guards are in place and operational
- Start, operate, monitor and adjust depositing process equipment to achieve required outcomes. This may include monitoring control points and conducting inspections as required to confirm the process remains within specification. Monitoring may include:
 - maintaining supply of materials to hopper
 - controlling weights
 - checking dimensions and positioning of deposited material
 - visual inspections to identify faults such as unacceptable placement
 - checking pump stroke settings
 - checking line speed
- Monitor supply and flow of materials to and from the depositing process to confirm process remains within specification.
- Demonstrate product changeover procedures
- Take corrective action in response to out-of-specification results
- Respond to and/or report equipment failure within level of responsibility
- Locate emergency stop functions on equipment
- Follow isolation and lock out/tag out procedures as required to take depositing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- Complete workplace records as required
- Maintain work area to meet housekeeping standards
- Use process control systems according to enterprise procedures
- Collect samples and conduct tests according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- Conduct routine maintenance according to enterprise procedures
- Clean and sanitize equipment according to enterprise procedures
- Use oral communication skills / language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- Work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- Purpose and basic principles of the depositing process. This may include product preparation and conditioning requirements and product depositing
- Basic operating principles of equipment. This may include an operational understanding of main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation. It also includes knowledge of services required and action to take if services are not available
- The flow of the depositing process and the effect of outputs on downstream processes
- Quality requirements of materials for depositing and effect of variation on depositing process performance and outputs
- Quality characteristics required of process outputs
- Operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- Scope to adjust for weight variation within workplace quality parameters
- Typical equipment faults and related causes. This includes recognition of signs and symptoms of faulty equipment and early warning signs of potential problems
- Methods used to monitor the depositing process. This may include inspecting, measuring and testing as required by the process. It requires awareness of inspection or test points (control points) in the process and the related procedures and recording requirements
- Contamination/food safety risks associated with the depositing process and related control measures
- Common causes of variation and corrective action required
- OHS hazards and controls
- Requirements of different shutdowns as appropriate to the depositing process and workplace production requirements. This includes emergency and routine shutdowns and procedures to follow in the event of a power outage
- Isolation, lock out and tag out procedures and responsibilities
- Product/process changeover procedures and responsibilities
- Procedures and responsibility for reporting production and performance information
- Environmental issues and controls relevant to the depositing process. This includes

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <p>waste/rework collection and handling procedures related to the process</p> <ul style="list-style-type: none">• Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment• Sampling and testing associated with process monitoring and control where relevant• Routine maintenance procedures where relevant• Cleaning and sanitizing procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for depositing
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OH&S hazards and controls
- safely shut down equipment
- apply food safety procedures

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- recipe/batch instructions
- specifications, control points and processing parameters
- depositing and related equipment
- ingredients/mix to be deposited
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required
Method of assessment	<p>This unit should be assessed together with core units and other units of competence relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2030A Operate a process control interface • FDFOP2013A Apply sampling procedures • PMLTEST300B Perform basic tests • FDFOP2014A Participate in sensory analyses • FDFOP2011A Conduct routine maintenance • FDFOP2004A Clean and sanitise equipment
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity. When applied to the pharmaceutical industry, relevant GMP codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP
Workplace information	Workplace information may include Standard Operating Procedures (SOPs), specifications, production schedules and instructions, manufacturers' advice, standard forms and reports
Typical equipment	Typical equipment includes depositing hopper, nozzles and manifolds, tins/pans, belts, and lubricant applicators. Related processes may include cooling, further processing, and cutting equipment
Materials deposited	Materials deposited may include batter, cream, jam and fillings as appropriate to product
Operation of equipment and processes	Operation of equipment and processes may require the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include cleaning. In some cases cleaning may be carried out by a

RANGE STATEMENT	
	dedicated cleaning crew
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include power, steam, water, vacuum, and compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2034A Operate an evaporation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down an evaporation process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of an evaporation process and associated equipment.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the evaporation process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the evaporation process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to workplace environmental standards 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the evaporation process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- prepare materials as required
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust evaporation equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - temperatures
 - vacuum
 - motor amperage
 - condensate flow
 - steam flow and pressure
 - throughput
 - time/speed
 - evaporated product characteristics
- monitor supply and flow of materials to and from the evaporation process
- take corrective action in response to out-of-specification results
- conduct product/batch changeovers
- report and/or record corrective action as required
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare equipment for cleaning
- respond to and/or report equipment failure within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of evaporation, including an understanding of the principles of steam, the relationship between boiling point and pressure as applied to evaporation, and the changes that occur to product as it moves through the evaporation process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- quality characteristics to be achieved by the evaporation process
- the flow of the evaporation process and the effect of product output on downstream processes
- quality requirements of materials and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the evaporation process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupation health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the evaporation process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for evaporation • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule, batch/recipe instructions • evaporation process and related equipment and services • materials to be evaporated • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Evaporation equipment	<p>Evaporation equipment may include:</p> <ul style="list-style-type: none"> heat exchangers vapour separators vapour condensers and vacuum units <p>Evaporators may have:</p> <ul style="list-style-type: none"> single or multiple stages and effects
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT	
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2035A Operate an enrobing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a chocolate enrobing process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of an enrobing process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the enrobing equipment and process for operation	1.1. Tempered chocolate is confirmed and available for enrobing and centres/bars are conditioned as required to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the enrobing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the enrobing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify enrobing process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of tempered chocolate and the relevant centres/biscuits are available at the correct temperature
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust enrobing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - supply of chocolate to the enrobing reservoir
 - temperatures of chocolate and pipelines
 - chocolate temper
 - chocolate supply pump speed
 - curtain flow
 - blower and vibrator settings
 - temperature profile of cooling tunnel
 - chocolate coverage
 - backing off and tailing
 - product weight
 - appearance
 - cooling temperatures
- monitor supply and flow of materials to and from the enrobing process and equipment operation to confirm process remains within specification
- demonstrate product/batch changeovers
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take enrobing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required

REQUIRED SKILLS AND KNOWLEDGE

- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the enrobing process, such as the effect of chocolate viscosity on enrobing and types of chocolate suitable/used for coverage and backing off
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation.
- services required and action to take if services are not available
- the flow of the enrobing process and the effect of outputs on downstream processes
- conditioning requirements for centres/bars/biscuits and chocolate, such as understanding of temper test procedures
- quality characteristics of centres/bars/biscuits and chocolate for use in the enrobing process and the effect of variation on process performance and outputs
- quality characteristics to be achieved by the process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the enrobing process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the enrobing process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the enrobing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities

REQUIRED SKILLS AND KNOWLEDGE

- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the enrobing process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitising procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for enrobing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • recipe/batch instructions • specifications, control points and processing parameters • process and related equipment and services, including enrober and cooling equipment • materials to be processed, including tempered chocolate and conditioned centers to be enrobed • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Ingredients	Ingredients include: <ul style="list-style-type: none"> • tempered chocolate (more than one type of chocolate may be used) • centres • bars or biscuits to be covered
Typical equipment	Typical equipment includes: <ul style="list-style-type: none"> • pump • conveyor belt • reservoir tank • enrober • blowers • vibrators • detailers

RANGE STATEMENT	
	<ul style="list-style-type: none"> roll scrapers/licking rolls cooling tunnels
Operation of equipment	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2036A Operate an extrusion process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down an extrusion process. This unit refers to both wet and dry extrusion processes.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of an extrusion process and associated equipment.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the extrusion equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Machine components and related attachments are selected and fitted to meet operating requirements 1.3. Processing and operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the extrusion process	2.1. Ingredients and additives are delivered to the extrusion process in the required quantities and sequence 2.2. Preparation of the mass is monitored to confirm that specifications are met and mass is suitable for extrusion 2.3. The extrusion process is operated according to workplace procedures 2.4. Equipment is monitored to identify variation in operating conditions 2.5. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.6. The extruded product is monitored to confirm that specifications are met 2.7. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.8. The work area is maintained according to housekeeping standards 2.9. Work is conducted in accordance with workplace environmental guidelines 2.10. Workplace records are maintained according to workplace recording requirements
3. Shut down the extrusion process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials/ingredients and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting and fitting appropriate attachments where required, setting processing parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required at each stage of the extrusion process to confirm process remains within specification, such as:
 - parameters such as throughput
 - load/work input as measured by rpm (revs per minute)
 - kilowatts
 - amps and/or Hz (hertz) at each stage of the process
- monitor supply of materials to and from the extrusion process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of each part of the process, including the purpose and methods used to achieve each stage of the extrusion process
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the extrusion process and the effect of outputs on downstream processes
- quality characteristics of extruded output, including required characteristics of mass or blend to be extruded, such as:
 - gelatinisation and viscosity
 - dimensions, texture and hardness of extruded product
 - moisture content
- effect of variation in inputs and/or services on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including the effect of variation in key variables, such as:
 - throughput and work input at each stage of the process
 - effect of time and temperature
 - barrel pressures and temperatures at each zone
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems, such as:
 - screw and barrel assembly wear
 - die plate wear
 - wear of conditioner paddles
 - extruder knife condition
- methods used to monitor the extrusion process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- contamination risks related to the extrusion process and related control measures
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities

REQUIRED SKILLS AND KNOWLEDGE

- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the extrusion process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for extrusion • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • extrusion and related equipment and services • ingredients/blend/mass to be extruded • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests .
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements

Legislative requirements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to the industry includes:

- the Food Standards Code including labelling, weights and measures legislation
- legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity

When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production schedules and instructions
- manufacturers' advice
- standard forms and reports

Extrusion process

The extrusion process typically includes:

- feeding/dosing
- conditioning/cooking
- mixing
- extruding
- drying and cooling

It may also involve screening/sieving, a final additive addition stage and further processing,

RANGE STATEMENT	
	such as sheeting or aeration according to product type
Extrusion equipment	<p>Extrusion equipment may include:</p> <ul style="list-style-type: none"> • ingredients handling and addition equipment • mixers • conditioners • cookers • dryers and coolers <p>Some systems may also include:</p> <ul style="list-style-type: none"> • expanders • oil coating systems • screens and sieves • sheeting • cutting/stamping equipment • tray feeders/take off • stackers
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFOP2037A Operate a filtration process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down filtration equipment used to separate coarse particles from solutions.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a filtration process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>When separation of fine particle sizes is required, the following units should be considered:</p> <ul style="list-style-type: none"> • FDFOP2050A Operate a separation process, and • FDFOP2057A Operate a membrane process.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the filtration equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the filtration process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Separation of solids from solution meets specifications 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The process is monitored to confirm that specifications are met 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the filtration process	3.1. The appropriate shut down procedure is identified 3.2. The process is shutdown according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify filtration processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting and fitting appropriate screens and equipment components, selecting settings and/or related parameters, cancelling isolation or lockouts as required, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust filtration process and equipment to achieve required outcomes, including:
 - flow rates
 - residence time
 - solids for in-feeds and out-feeds (this is typically done by conducting a spin test)
- monitor supply and flow of materials to and from the filtration process
- take corrective action in response to out-of-specification results, such as identifying and responding to sieve or screen blockages or tears
- identify and correct or report equipment faults, such as confirming condition screens and sieves and replacing damaged components within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take filtration and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- clean and sanitise filtration equipment
- conduct product/batch changeover
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of:

- purpose and basic principles of filtration, including stages and changes that occur during filtration
- basic operating principles of filtration equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, including relevant screens and sieves as required by filtration equipment, and the purpose and location of sensors and related feedback instrumentation
- services required for operation of filtration equipment used in the workplace
- the flow of the filtration process and the effect of product output on downstream processes
- effect of raw material characteristics on filtration performance
- quality characteristics required of filtration process output
- test methods used to monitor solids in in-feed and out-feed streams
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems such as screen or sieve damage
- common causes of variation and corrective action required
- spoilage and other food safety risks associated with filtration
- occupation health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the filtration process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- cleaning procedures appropriate for the range of filtration components used
- isolation, lock out and tag out procedures and responsibilities
- product/batch changeover procedures
- cleaning and sanitising methods and procedures
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to filtration, including handling of effluent
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for filtration • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, and batch/recipe instructions • information on equipment capacity and operating parameters • production schedule/batch instructions • filtration and related equipment and services • materials required for filtration • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Filtration equipment	<p>Filtration equipment may include:</p> <ul style="list-style-type: none"> • vibratory and rotary sieves • screens, and drum filters <p>The filtration process may consist of multiple in-line filters</p>
Operation of equipment and processes	Operation of equipment and processes may require:

RANGE STATEMENT	
	<ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2038A Operate a grinding process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down processes, such as grinding, rolling and breaking to reduce the particle size of grains and pulses.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of grinding equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the grinding equipment and process for operation	1.1. Materials are confirmed and available to meet production requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the grinding process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental standards 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the grinding process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services to the grinding process
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- operate stockfeed control panel to transfer and grind product
- monitor and adjust the grinding process and equipment operation to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, and running adjustments to hammer mills and roller mills
- monitor supply and flow of materials to and from the grinding process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- demonstrate batch/product changeovers
- sort, collect, treat, recycle or dispose of waste
- maintain work area to meet housekeeping standards
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- purpose and basic principles of the grinding process, including the characteristics of materials, which can be reduced to a suitable form for product such as stockfeed
- basic operating principles of equipment, such as main equipment components, bulk materials transfer systems and equipment, dust collection equipment, grinding equipment operating capacities and applications, and the purpose and location of magnets, sensors and related feedback instrumentation
- services required and action to take if services are not available
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment
- the flow of the grinding process and the effect of product output on downstream processes
- quality characteristics and uses of grinding process outputs
- effect of the grinding process on the end product
- effect of raw material characteristics on grinding process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the grinding process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls, including the risk of dust explosion and an understanding of the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for grinding • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, batch/recipe instructions • specifications, control points and processing parameters • production schedule/batch instructions • information on equipment capacity and operating parameters • grinding and related equipment and services • stock required for the grinding process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> the Food Standard Code, including the labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Equipment	Equipment may include: <ul style="list-style-type: none"> conveyors/elevators augers magnets fans sieves hammer mills roller mills breaker bars cyclones
Materials	Materials include: <ul style="list-style-type: none"> grains

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pulses Pulses are legumes typically include: <ul style="list-style-type: none"> • peas • beans • lentils
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning(in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2039A Operate a frying process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down an in-line frying process used to fry or par-fry product.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a frying process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the frying process for operation	1.1. Frying oil and product are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the frying process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the frying process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify frying requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary oil type to meet product frying requirement, product to be processed and services
- prepare materials as required prior to frying
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and valves are correctly positioned for oil transfer and processing stages, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the frying process and equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - product throughput/belt speeds
 - oil levels/temperatures
 - operation of oil filtration process
 - visual appearance of product, such as breaking open to inspect
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- conduct product/batch changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of frying, including optimal frying conditions and the role of oil filtration
- basic operating principles of equipment, such as main equipment components, the configuration of valves, pumps and pipework, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the frying process and the effect of product output on downstream processes
- quality characteristics to be achieved by the frying process
- effect of product and oil quality characteristics on the frying process, final product and shelf-life
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the frying process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls, including the fire suppression system and procedures to follow if temperatures exceed the specified range
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the frying process, including procedures for recycling oil and for disposing of spent oil and the consequences of incorrect disposal
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for frying
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- in-line frying equipment and related equipment and services
- frying oil suited to product type and product to be fried
- sampling schedules and test procedures and equipment as required
- cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Frying equipment	<p>Frying equipment may include:</p> <ul style="list-style-type: none"> • holding tanks • oil filter unit • frying line (typically gas fired) • fire suppression system • pumps • heat exchangers (indirectly heated process) <p>Related equipment may include:</p> <ul style="list-style-type: none"> • product preparation processes; such as blanching equipment, crumbing or coating application units • further cooking process (low fat applications)
Operation of equipment and	Operation of equipment and processes may

RANGE STATEMENT	
processes	require: <ul style="list-style-type: none"> the use of process control panels and systems
Services	Services are appropriate to the process to be operated. Typical examples include <ul style="list-style-type: none"> gas power steam water compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2040A Operate a heat treatment process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a heat treatment process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a heat treatment process and associated equipment.</p> <p>Heat treatment can include hot fill, aseptic processing, pasteurisation, ultra-high temperature (UHT) and high temperature short time (HTST) processing.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>Note that this unit overlaps with FDFOP2041A Operate a mixing or blending and cooking process. For further information refer to advice on unit duplication in the section on qualification arrangements.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the heat treatment process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the heat treatment process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that temperature specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the heat treatment process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify heat treatment requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- prepare materials as required
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the heat treatment process and equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time and temperature
 - pressure
 - flow rates
 - flow diversion
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate procedure to clean and sanitise equipment
- complete workplace records as required
- maintain work area to meet housekeeping standards
- control related holding and cooling stages according to enterprise procedures
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- conduct product/batch changeovers according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of heat treatment, including the effect of heat treatment on product and on microbiological characteristics
- the relationship between time, temperature and pressure in the heat treatment process, such as associated holding and cooling profiles according to product requirements
- basic operating principles of equipment, such as main equipment components, types and characteristics of heating mediums used, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the heat treatment process and the effect of product output on downstream processes
- quality characteristics required of the heat treated product
- effect of raw material characteristics on the heat treatment process, such as variation in viscosity/texture, microbial load and acidity
- heat treatment requirements for food to be treated, such as low and/or high acid foods
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the heat treatment process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- cleaning and sanitation procedures
- environmental issues and controls relevant to the heat treatment process, including waste/rework collection and handling procedures related to the process

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• product/process changeover procedures and responsibilities where relevant• routine maintenance procedures where relevant• sampling and testing associated with process monitoring and control where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for heat treatment
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- heat treatment process and related equipment and services
- materials to be heat treated
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instruction, • manufacturers' advice • standard forms and reports
Heat treatment equipment	<p>Heat treatment equipment may include:</p> <ul style="list-style-type: none"> • pumps • heat exchangers • holding and cooling stages • filters and clarifiers • direct steam injection equipment
Operation of equipment and	Operation of equipment and processes may

RANGE STATEMENT	
processes	require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2041A Operate a mixing or blending and cooking process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a combined mixing or blending and cooking process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to mix or blend and cook ingredients. This process is commonly used to prepare sauces, savoury fillings and marinades.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>Note that this unit overlaps with FDFOP2040A Operate a heat treatment process and with FDFOP2028A Operate a mixing or blending process. For further information, refer to advice on unit duplication in the section on qualification arrangements.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare mixing/blending and cooking equipment and process for operation</p>	<p>1.1. Ingredients are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the mixing/blending and cooking process</p>	<p>2.1. Ingredients and additives are introduced in the required quantities and sequence to meet recipe specifications</p> <p>2.2. The process is started and operated according to workplace procedures</p> <p>2.3. Equipment is monitored to identify variation in operating conditions</p> <p>2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.5. The process is monitored to confirm that specifications are met</p> <p>2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.7. Mix is transferred to required production or storage location</p> <p>2.8. The work area is maintained according to housekeeping standards</p> <p>2.9. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.10. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the mixing/blending and cooking process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify recipe requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- sequence ingredient addition to meet recipe specifications, such as manual addition and/or operating bulk materials transfer and automatic addition equipment
- start, monitor and adjust processing equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time and temperature
 - agitation settings
 - weights
 - flow rates
 - flow diversion
 - characteristics of the mix (e.g. colour, viscosity, density and consistency)
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- conduct product/batch changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- cool and pack off cooked product according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as

REQUIRED SKILLS AND KNOWLEDGE

specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge***Knowledge of:***

- purpose and basic principles of heat sterilisation and effect on physical, chemical, microbiological and organoleptic characteristics of the cooked product
- the flow of the mixing or blending and cooking process and the effect of product output on downstream processes
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and calibration schedules for scales and related weighing/measuring equipment
- services required and action to take if services are not available
- quality characteristics and conditioning required of ingredients used and their role in the product, such as reconstituting dry ingredients and bringing ingredients to a required temperature
- effect of ingredient quality/condition on the process, including variables such as temperature, viscosity/texture, microbial load and acidity quality
- heat treatment requirements for low and/or high acid foods as appropriate to production requirements
- stages and changes which occur during the blending and heat treatment stages
- quality requirements of the cooked product, such as chemical, textural and flavour profiles as required
- relationship between time and temperature in the cooking process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- procedures for requisitioning, receiving and returning ingredients from stores
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required
- contamination/food safety issues associated with mixing and blending and related control measures
- operational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information

REQUIRED SKILLS AND KNOWLEDGE

- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- food safety requirements when preparing products containing meat where relevant
- packaging requirements and procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for mixing, blending and cooking • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch/recipe instructions • specifications, control points and operating parameters • mixing/blending and cooking process and related equipment and services • ingredients to be cooked • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • consignment notes • verification procedures • standard forms and reports
Equipment	<p>Equipment typically includes:</p> <ul style="list-style-type: none"> • weighing and measuring equipment • sieves • stand-alone kettles fitted with agitators (batch processing) or blenders • shell and tube heat exchangers/cookers

RANGE STATEMENT	
	(continuous processing) <ul style="list-style-type: none"> • conveyors • bulk materials transfer equipment • storage facilities Product cooling and packing may be integral to a mixing and cooking process depending on equipment/process configuration
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • vacuum • and compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2042A Operate a drying process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a drying process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to dry food materials.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>This unit is not appropriate for sun-drying product.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the drying process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing and operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the drying process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the drying process	3.1. The appropriate shut down procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- prepare materials as required
- conduct pre-start checks, such as inspecting equipment condition (e.g. checking belts, chains, screens, seals and valves, and filters) to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - temperatures
 - moisture content
 - air flow
 - throughput
 - time/speed
 - pressure/vacuum
 - product characteristics
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- respond to and/or report equipment failure within level of responsibility
- report and/or record corrective action as required
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- prepare equipment for cleaning
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- demonstrate product/batch changeovers (may not apply to some continuous operations) according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the drying process, including the stages that occur during the drying process and the effect on product structure of each stage
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- quality characteristics to be achieved by the process
- materials preparation requirements and effect of variation on the process
- the flow of the drying process and the effect of outputs on downstream processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the drying process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation, such as air temperature, air velocity, humidity and pressure, and corrective actions required if these are out-of-specification
- operational health and safety (OHS) hazards and controls, including limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the drying process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">relationship between control panels and systems and the physical equipment• product/process changeover procedures and responsibilities where relevant• routine maintenance procedures where relevant• sampling and testing associated with process monitoring and control where relevant• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for drying • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule, batch instructions • specifications, control points and processing parameters • drying process and related equipment and services • product to be dried • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Drying equipment	Drying equipment may include: <ul style="list-style-type: none"> drying chambers atomisers heaters coolers air filters fans recovery cyclones conveyors
Materials	Materials may include product to be dried and additives or drying agents as required, consistent with the provisions of the Australian Food Safety Code

RANGE STATEMENT	
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning, (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power fuel steam water compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2043A Operate an homogenising process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down homogenising equipment.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of homogenising machines and equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare homogenising process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the homogenising process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down homogenising equipment	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, and confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm the homogenising process remains within specification, such as:
 - temperature
 - pressure
 - throughput
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE***Knowledge of:***

- purpose and basic principles of homogenising
- basic operating principles of equipment, including main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- effect of raw materials on homogenisation, such as variables, including solids (brix), acidity, temperature, consistency and colour on process outcomes
- quality requirements to be achieved by the homogenisation process
- the flow of the homogenising process and the effect of product output on downstream processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the homogenising process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the homogenising process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for homogenising • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • homogenisation process and related equipment and services • materials to be homogenised • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Homogenising equipment	<p>Homogenising equipment typically includes:</p> <ul style="list-style-type: none"> • supply pump • homogeniser block • homogenising valve • pressure gauge • back-pressure valve • pressure relief valve • pressure • micro-gap • centrifugal and ultrasonic homogenisers <p>Related equipment may include:</p> <ul style="list-style-type: none"> • a deaeration unit

RANGE STATEMENT	
Processes	Processes may be batch or continuous, and apply to single or multiple product types
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2044A Operate a retort process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a retort or cooker.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a retort process.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFO2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the retort equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the retort process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the retort process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services, including confirming container coding, and treating or confirming availability of treated cooling water
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the cooking and cooling process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time
 - temperature
 - pressure at each stage
- cool, clean and handle post-treated containers to meet requirements
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- demonstrate batch changeovers
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of heat treatment and retort process, including the relationship between time and temperature in the retort process, and the changes and requirements of each stage, such as cooking, cooling and post-treatment container handling
- the purpose and requirements of container coding
- basic operating principles of equipment, such as main equipment components (e.g. thermometers, chart recorder, temperature control system, clock and pressure gauges), status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the retort process and the effect of product output on downstream processes
- quality characteristics required of the retorted product
- effect of raw material characteristics on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the retort process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures, including both the risks of contamination related to processing and to post-processing handling of containers
- common causes of variation and corrective action required, including the effects of variables, such as container size, product particulates, pH, water activity, time/temperature and pressure on process outcomes
- operational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for retorting • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • retort process and related equipment and services • materials to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Retort/cooker equipment	<p>Retort/cooker equipment includes:</p> <ul style="list-style-type: none"> • static and batch retorts • continuous retorts, including hydrostatic cookers with or without over-pressure • coding and materials handling equipment
Equipment components	<p>Equipment components typically include:</p> <ul style="list-style-type: none"> • vents • bleeders • spreaders • time and temperature measurement instrumentation
Process stages	Process stages typically include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cooking • cooling • post-cooling container handling
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2045A Operate pumping equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to inspect, operate and monitor pumps and related equipment.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of pumping equipment.</p> <p>This unit should be selected where an operator requires an understanding of the operating principles and components of pumps/the pumping system and related equipment in order to carry out work requirements.</p> <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply and reference to food safety is replaced by GMP.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare pumps for operation	1.1. Pre-start checks on pumps and related equipment are carried out 1.2. Appropriate settings are selected to meet safety and production requirements 1.3. Condition of pumps and related equipment is monitored and maintenance requirements are identified and reported according to workplace reporting requirements
2. Monitor pump operation	2.1. Pumps and related equipment are started and monitored to identify variation in operating conditions 2.2. Corrective action is taken as required to maintain pump operation within equipment capacity and operating parameters
3. Complete pump operations	3.1. Pumps are prepared for cleaning and/or maintenance 3.2. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify pumping requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of materials to be pumped and necessary services
- conduct pre-start checks, such as inspecting pump flanges, gaskets and seals to identify any signs of wear, checking related valve assemblies to identify any signs of leaks, cancelling isolation or lockouts as required (where pumps have variable settings, this involves selecting appropriate settings and confirming that related pipework is correctly configured for pumping requirements)
- monitor and adjust pump operation as required, such as identifying variation in amperage and adjusting pump speeds/flow rates to meet pumping requirements
- monitor supply and flow of materials to and from the pump
- follow isolation and lock out/tag out procedures as required to take pumps and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility (preparation of equipment may include flushing or pigging related lines and pipework, and removal of faceplate)
- respond to and/or report pump equipment failure within level of responsibility
- locate stop and reset functions on pumps
- maintain work area to meet housekeeping standards
- operate pumps using process control systems according to enterprise procedures
- conduct routine pump maintenance according to enterprise procedures
- clean pumps and related equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic operating principles of pumps and related equipment, including main pump components, status and purpose of guards, pump system configuration, including valves, taps and pipework
- the effect of pumping system design on operating performance, including flow resistance, pressure and head
- operating capacities of pumps used in the work area, including different pump types as required to perform pumping operations where relevant

REQUIRED SKILLS AND KNOWLEDGE

- effect of raw material characteristics on pump performance, including variables such as soluble solids, temperature and viscosity
- effect of pump operating parameters on product/materials pumped
- corrective action required where pump operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- services required
- isolation, lock out and tag out procedures and responsibilities
- operational health and safety (OHS) hazards and controls
- procedures and responsibility for reporting problems
- environmental issues and controls, including action required in the event of significant leaks or spills
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- routine pump maintenance requirements and procedures where relevant
- cleaning procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on pumps • start, operate, monitor and adjust pumps to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • pumps, related equipment and services • materials to be pumped • routine preventative maintenance schedule as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2008A Operate a bulk liquid transfer process

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• FDFOP2011A Conduct routine maintenance• FDFOP2030A Operate a process control interface.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Pumps	<p>Pumps may include but are not limited to:</p> <ul style="list-style-type: none"> • centrifugal pumps • reciprocating or positive displacement pumps • diaphragm pumps • helical screw pumps • electrical submersible pumps
Related equipment	<p>Related equipment may include:</p> <ul style="list-style-type: none"> • valves • gauges • flow meters • pipework • screens • filters
Pump operation	<p>Pump operation may require:</p> <ul style="list-style-type: none"> • the use of process control screens and systems

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2046A Operate a production process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, monitor, and adjust a production process or sub-system.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is generic and should be customised for a given process. It must only be selected where no process-specific unit is available.</p> <p>This unit has application in a food processing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a production process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- demonstrate batch/product changeovers according to enterprise procedures (may not apply to some continuous operations)
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the process

REQUIRED SKILLS AND KNOWLEDGE

- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of this process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the process
- quality requirements of materials and effect of variation on process performance
- operating requirements, parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including recognition of signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls, including limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- product/process changeover procedures and responsibilities where relevant
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for production process • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • process and related equipment and services • materials to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Production process or sub-system	<p>A production process or sub-system may require:</p> <ul style="list-style-type: none"> • operation of a series of related items of equipment to achieve the process outcome
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2047A Operate a portion saw

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate and adjust a portion saw.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a portion saw.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare portion saw for operation	1.1. Safety guards and covers are in place 1.2. Pre-start checks are carried out as required by workplace requirements
2. Operate the portion saw to achieve required outcome	2.1. Portions to be cut are positioned 2.2. The portion is passed over the blade and cut to meet specifications 2.3. Equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. Quality and accuracy of cuts is monitored to confirm that specifications are met 2.6. Equipment is inspected and cleaned according to workplace procedures 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. The work area is maintained according to housekeeping standards 2.9. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify portion requirements
- select, fit and use personal protective clothing and/or equipment, including use of mesh gloves or similar protective clothing
- confirm supply of necessary poultry pieces, including inspecting and removing pieces of unacceptable quality
- conduct pre-start checks, such as inspecting condition of the portion saw to identify blade sharpness and other signs of wear, cancelling isolation or lock outs as required, confirming that equipment is clean and all safety guards are in place and operational, and ensuring that lighting, guarding and signage around the saw are in position
- collect portions to be cut
- position portions to allow the blade to pass cleanly through
- achieve cut accuracy to meet specifications and workplace standards with minimal waste
- identify faulty equipment operation and/or blunt blades and take corrective action
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take the portion saw and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- inspect and clean portion saw and report maintenance issues as required
- maintain work area to meet housekeeping standards
- conduct routine maintenance, such as blade replacement according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- quality specifications and characteristics required of portioned product
- portion saw operating procedures, including correct positioning of guards, lighting and safe work practices when working with the saw

REQUIRED SKILLS AND KNOWLEDGE

- operational health and safety (OHS) hazards and controls, including limitations of protective clothing and equipment relevant to the work process
- contamination/food safety risks associated with the automated cutting process and related control measures, including hygiene and sanitation requirements when handling product
- grading/downgrading specifications for portioned product
- the effect of outputs on downstream processes
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- procedures for cleaning and for reporting maintenance requirements
- waste handling requirements and procedures
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on portion saw • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment, including a mesh glove • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • portion saw and related equipment and services • carcasses/pieces to be cut into portions • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	<p>other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment• FDFOP2011A Conduct routine maintenance.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment includes:</p> <ul style="list-style-type: none"> • portion saw that is fixed in position • materials handling equipment as required

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFOP2048A Pre-process raw materials

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down preparation and pre-processing of raw materials.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of raw materials preparation process and associated equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for pre-processing	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the pre-processing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the pre-processing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- load or transfer materials to pre-processing equipment
- start, operate and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of pre-processing used

REQUIRED SKILLS AND KNOWLEDGE

- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the process and the effect of product output on downstream processes
- quality characteristics to be achieved at the pre-processing stage
- effect of raw material characteristics on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with pre-processing and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls, including limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for preparation of raw materials • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • production schedule and batch instructions • quality criteria, specifications and inspection procedures • raw materials • documentation and recording requirements and procedures • workplace records as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• FDFOP2011A Conduct routine maintenance• FDFOP2013A Apply sampling procedures• FDFOP2030A Operate a process control interface• MSL973001A Perform basic tests.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Pre-processing methods	<p>Pre-processing methods may include:</p> <ul style="list-style-type: none"> fully or semi-automated peeling slicing and dicing blanching milling other specialist processes
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT	
Services	<p>Services are appropriate to the process to be operated. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2049A Operate a reduction process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a reduction process to grind and sift particles to gradually reduce particle size to meet specifications.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to processes, such as flour milling, where endosperm particle size is reduced. It also applies to other reduction processes, such as production of crumb for coatings, in the snack food sector. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a reduction process and associated equipment.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the reduction equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the reduction process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that particle size and flour extraction rates meet production specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. By-product generated from the reduction process is segregated and transferred to designated storage area according to food safety requirements</p> <p>2.7. The work area is maintained according to housekeeping standards</p> <p>2.8. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.9. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the reduction process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify reduction process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that related equipment is clean and correctly configured for reduction process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust reduction process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - correct product type/quantity
 - roll releases
 - even spread of feed across rolls
 - mill balance
 - even grind/correct particle size
- monitor supply and flow of materials to and from the reduction process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take reduction process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the reduction process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the reduction process and the effect of outputs on downstream flour milling processes
- quality characteristics to be achieved by the reduction process
- quality requirements of materials and effect of variation on reduction process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the reduction process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the reduction process and the related procedures and recording requirements
- contamination/food safety risks associated with the reduction process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls, including limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the reduction process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the reduction process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for reduction • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • reduction process and related equipment and services • stock to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSI973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Reduction equipment	<p>Reduction equipment may include:</p> <ul style="list-style-type: none"> • reduction rolls • plainsifters • impactors • entoleters (flake disruptors and detachers)
Stock for the reduction in a flour milling process	Stock for the reduction in a flour milling process is supplied from either the scalping and grading or scratch and sizing or purification processes
By-products (co-products) for flour milling	<p>By-products (co-products) for flour milling may include:</p> <ul style="list-style-type: none"> • semolina • sharps

RANGE STATEMENT	
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2050A Operate a separation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a separation process.
------------------------	---

Application of the Unit

Application of the unit	<p>When applied to the dairy sector, this unit covers the skills and knowledge required to set up, operate, adjust and shut down a separation process to wash and concentrate fat and sediment from milk and dairy products.</p> <p>In other applications it is used to separate liquids using centrifugal separation methods.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the separation process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the separation process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The separation process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental standards 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the separation process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify separation processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming that the correct bowl is fitted, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust separation process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - separation speed
 - solids in in-feed and out-feed streams (this is typically done by in-line refractometers, Baume tests and spin tests)
 - flow rates
 - time/temperatures
 - pressures
 - air/water/oil levels
 - condition of seals and valves
 - discharge/desludging
- monitor supply and flow of materials to and from the separation process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- shut down separation process equipment in response to emergency situation
- follow isolation and lock out/tag out procedures as required to take separation process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- clean and sanitise equipment
- demonstrate product/process changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the separation process, including stages and changes that occur during the separation process
- basic operating principles of equipment, including safety hazards associated with separation equipment and the implications of interchanging parts/incorrect bowl balance
- main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and services required for operation of separation equipment used in the workplace
- the flow of the separation process and the effect of product output on downstream processes
- impact of in-feed quality and concentration levels on the separation process
- quality characteristics and uses of separation process outputs
- methods used to monitor the separation process, such as inspecting, measuring and testing in-feed and out-feed solids, and other tests as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- common causes of variation and corrective action required, including how variation in temperature and solids affects the process
- spoilage and other food safety risks associated with separation, and related control measures
- operational health and safety (OHS) hazards and controls, including limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- cleaning and sanitation procedures
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance

REQUIRED SKILLS AND KNOWLEDGE

information

- | |
|--|
| <ul style="list-style-type: none">• environmental issues and controls relevant to the operation, including handling of effluent• basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment• routine maintenance procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for separation • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, batch/recipe instructions • information on equipment capacity and operating parameters • production schedule and batch instructions • separation process and related equipment and services • specifications, control points and processing parameters • materials required for the separation process • sampling schedules and test procedures and equipment as required • routine preventative maintenance schedule as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Separation equipment used in the dairy industry	<p>Separation equipment used in the dairy industry typically includes:</p> <ul style="list-style-type: none"> • hermetic separators • semi-open (hermetic) separators <p>Variations to the semi-open separators include:</p> <ul style="list-style-type: none"> • soft stream inlet • cold milk separators • cream cheese or quarg separators

RANGE STATEMENT	
Separation equipment used in general foods, egg processing and bio-products	Separation equipment used in general foods, egg processing and bio-products typically includes: <ul style="list-style-type: none"> • fully enclosed • high speed • centrifugal separators
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> • power • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2051A Operate a spreads production process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a spreads production process appropriate to the manufacture of margarine or dairy-based spreads.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a spreads production process and associated equipment.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the spreads equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the spreads process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the spreads process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - temperature
 - work input
 - throughput
 - pressures
 - crystal formation
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- demonstrate batch/product changeovers
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of spreads preparation, including crystallisation, the relationship between stages of crystal formation, work input and temperature, and the stages involved in the process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the spreads production process and the effect of outputs on downstream processes
- quality characteristics required of the finished product
- quality requirements of oil or emulsion for processing and the effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the spreads production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for production of spreads • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • spread processing and related equipment and services • emulsion or oil to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2013A Apply sampling procedures • FDFOP2011A Conduct routine maintenance • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Spreads	<p>Spreads may include:</p> <ul style="list-style-type: none"> • pure fat • emulsion-based products
Processing equipment	<p>Processing equipment may include:</p> <ul style="list-style-type: none"> • pumps • heat exchangers • chillers • crystallisers • pin machines • votators • perfectors
Operation of equipment and	Operation of equipment and processes may

RANGE STATEMENT	
processes	require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam water refrigeration compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDPOP2052A Operate a chocolate tempering process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a tempering process used to temper chocolate.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a depositing process and associated equipment.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDPOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the tempering equipment and process for operation	1.1. Chocolate for tempering is confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the tempering process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that tempering specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the tempering process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify tempering process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust tempering process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - setting pump speeds
 - checking temperature/zone settings
 - checking chocolate temperatures
- monitor supply and flow of materials to and from the tempering process and equipment operation to confirm process remains within specification
- demonstrate product/batch changeovers
- conduct temper test, interpret results and determine adjustments as required
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take tempering process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of:

- purpose and basic principles of the tempering process, including:
 - basic understanding of the crystallisation behaviour of cocoa fat
 - relationship between crystal forms and melting points/temperatures
 - process stages, such as heating, cooling, agitating, reheating and effect of each of these on outcomes
- basic operating principles of equipment, including main equipment components, temperature zones, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the tempering process and the effect of outputs on downstream processes
- quality characteristics required of chocolate for tempering and the effect of variation on tempering process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the tempering process, including temper test procedures and the significance of results for tempering process adjustments
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the tempering process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the tempering process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the tempering process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for chocolate tempering • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • recipe/batch instructions • specifications, control points and processing parameters • process and related equipment and services • chocolate to be tempered • tempermeter • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Typical equipment for an automated process	<p>Typical equipment for an automated process includes:</p> <ul style="list-style-type: none"> pumps storage/holding/melt tanks tempering equipment
Operation	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend

RANGE STATEMENT

	<p>on the nature of the process. Services for an automated process may include:</p> <ul style="list-style-type: none"> • power • fuel • water • steam • compressed and instrumentation air
--	---

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2053A Operate a washing and drying process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a washing and drying process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a washing and drying process and associated equipment typically used for raw products, such as fruit and vegetables.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the equipment and process for operation	1.1. Raw materials are confirmed and available to meet production requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the washing and drying process	2.1. The process is started and operated according to workplace procedures 2.2. Raw materials are inspected and washed to meet workplace specifications 2.3. Washed materials are transferred to drying stage 2.4. Materials are dried to specification 2.5. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the washing and drying process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary raw materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust washing and drying equipment to achieve required outcomes, including monitoring control points and conducting inspections to confirm process remains within specification, such as:
 - operation of dosing equipment
 - tank/bath or flume water levels
 - related equipment operation (such as pumps/conveyors)
 - immersion of raw materials
 - temperatures
 - water quality
 - flow rates
 - drying times
 - weight (before and after drying)
- monitor supply and flow of raw materials to the wash process and from the drying process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the washing and drying process, including water quality, the role of sanitisers in the washing process, and of drying technology, such as the use of centrifugal force in a drying process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services (principally water) required and action to take if services are not available
- the flow of this process and the effect of outputs on downstream processes
- quality characteristics to be achieved by both the washing and drying stages, including consequence of out-of-specification moisture levels on further processing and final product
- quality requirements of raw materials and effect of variation on process performance, including how variation in microbial load can affect the washing and drying process
- operating requirements, parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the washing and drying process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework

REQUIRED SKILLS AND KNOWLEDGE

collection and handling procedures related to the process

- | |
|--|
| <ul style="list-style-type: none">• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for washing and drying product • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications and inspection or control points • washing and drying equipment and services, including water and sanitizer • raw materials to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Washing and drying equipment	<p>Washing and drying equipment may include:</p> <ul style="list-style-type: none"> • wash baths/tanks/flumes • pumps • drying equipment, such as centrifuges • conveyors • materials handling equipment
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT

Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • water • compressed/instrumentation air
-----------------	---

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2054A Operate a water purification process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a water purification process to produce water to meet production requirements.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a water purification process and associated equipment.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the water purification equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and sanitising requirements and status are identified and confirmed</p> <p>1.3. Batch records or process documentation is completed</p> <p>1.4. Processing/operating parameters are entered and/or confirmed as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the water purification process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions from those indicated in workplace documents or standard operating procedures</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that purified water is produced to specification</p> <p>2.5. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the water purification process</p>	<p>3.1. The appropriate shut down procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Workplace and/or batch documentation is completed</p> <p>3.4. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify water purification process requirements
- select, fit and use personal protective clothing and/or equipment
- respond appropriately to hazards, including chemical spills
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for water purification process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust water purification process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - flow rates
 - pressure
 - operation of dosing equipment (where relevant)
 - alarms
- monitor supply and flow of materials to and from the water purification process
- take corrective action in response to out-of-specification results
- maintain a purification system free of physical, chemical and biological contaminants
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take water purification process and related equipment off-line in preparation for cleaning/back flushing and/or maintenance within level of responsibility
- carry out cleaning, sanitising, regenerating and back-flushing as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the water purification process, including methods used to purify water appropriate to workplace requirements
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the water purification process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the water purification process
- quality requirements of inputs to the purification process and the effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including following troubleshooting and problem solving guidelines, and recognising signs and symptoms of faulty equipment and early warning signs of potential problems
- basic operating principles of process control as appropriate, including the relationship between control panels and systems and the physical equipment
- methods used to monitor the water purification process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the water purification process and the related procedures and recording requirements
- Good Manufacturing Practice (GMP)/food safety requirements (as appropriate) associated with the purification process and related control measures
- common causes of variation and corrective action required
- operational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the water purification process and workplace production requirements, including emergency and routine shutdowns
- isolation, lock out and tag out procedures and responsibilities
- cleaning and sanitation procedures
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the water purification process
- sampling and testing associated with water purification process monitoring and control where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for water purification • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule • specifications, control points and processing parameters • water purification process, chemicals and related equipment and services • water to be purified • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements

Legislative requirements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:

- the Food Standards Code, including labelling, weights and measures legislation
- legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity

When applied to the pharmaceutical industry, relevant GMP codes apply in place of the Australian Food Standards Code and reference to food safety is replaced by GMP

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production schedules and instructions
- manufacturers' advice
- standard forms and reports

Water purification equipment

Water purification equipment may include:

- dosing equipment
- storage tanks
- pumps
- valves
- distillation systems
- reverse osmosis systems
- UV light
- deionisation plants

RANGE STATEMENT	
	<ul style="list-style-type: none"> softeners carbon tanks filters
Water produced	Water produced may include, but is not limited to: <ul style="list-style-type: none"> purified water deionised water reverse osmosis (RO) distilled water water for injection (WFI)
Purification processes	Purification processes are typically continuous processes
Operation of equipment and processes	Operation of equipment and processes typically requires: <ul style="list-style-type: none"> the use of process control panels and systems

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2055A Freeze dough

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to freeze bread dough.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a food processing environment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to freeze dough	1.1. Dough freezing requirements are identified 1.2. Freezers are set to meet parameters for snap freezing and for storage 1.3. Frozen dough meets freezing specifications
2. Store frozen dough	2.1. Storage conditions retain quality characteristics of frozen dough 2.2. The freezing processes are monitored to ensure that product meets food safety and quality requirements
3. Thaw frozen dough	3.1. Thawed dough meets food safety and quality requirements 3.2. Unacceptable dough is identified, rectified and/or removed 3.3. Waste is disposed of according to workplace procedure 3.4. Work is conducted in accordance with workplace environmental guidelines 3.5. Housekeeping standards are maintained in the workplace

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access freezing requirements for dough type
- set equipment to meet the parameters for snap freezing and for storing dough
- transfer dough to snap freezer (transfer method must ensure minimal damage to dough structure, which is particularly critical where frozen dough is already proofed)
- monitor equipment to confirm that freezing parameters are met
- package snap frozen dough for freezer storage as required to prevent moisture loss
- transfer snap frozen, packaged dough to frozen storage
- thaw dough as required for use
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills / language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of freezing dough, including what occurs to dough during snap freezing and storage stages
- freezing equipment used, freezing capacity and the effect of freezing method on product
- different handling requirements of made up and proofed doughs to preserve the dough structure
- purpose and characteristics of packaging liners used to pack frozen dough
- procedures for maintaining temperature parameters of freezing equipment, including procedures to be followed when loading and removing dough to preserve temperature conditions
- storage patterns to make efficient use of space, allow for product rotation and minimise temperature fluctuations
- food safety issues that can result from temperature abuse
- the significance of timeliness when both freezing and thawing dough
- optimal storage times
- the significance of variables, such as dough type and size, on freezing and thawing processes

REQUIRED SKILLS AND KNOWLEDGE

- procedures for efficiently thawing frozen product and the consequences of slow thawing
- the effect of freezing/thawing on the quality of the final product
- inspections/control points used to confirm that product meets quality requirements and related monitoring requirements
- causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning requirements and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • freeze and store frozen dough to maintain quality standards • identify the implications of the freezing process on dough products • assess outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant freezing, storing and thawing requirements, safe work practices, food safety, quality and environmental requirements • product specifications and related inspection/control points • freezing equipment • packaging materials and liners as required • dough • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for</p>	<p>To ensure consistency in one's performance, competency</p>

EVIDENCE GUIDE

assessment

should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Freezing equipment	<p>Freezing equipment includes:</p> <ul style="list-style-type: none"> • snap freezing equipment, such as blast freezers and storage freezers
Dough	Dough that is frozen may be either made up or proved dough. Frozen dough that has not been proved requires an additional step of conditioning before baking. This does not apply to proved dough

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2056A Operate a freezing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a freezing process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of freezing equipment. Freezing methods may include air freezing, contact freezing and cryogenic freezing.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the freezing process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the freezing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the freezing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- prepare materials as required
- conduct pre-start checks, such as involve inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the freezing process and equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - tunnel and product temperatures
 - throughput
 - removal of frozen waste product from equipment
 - visually inspecting product
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- demonstrate procedure to defrost tunnels as required
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct product/batch changeovers according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of freezing, including the changes which occur to product during freezing
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, basic principles and operation of refrigeration system, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the freezing process and the effect of product output on downstream processes
- quality characteristics to be achieved by the freezing process
- effect of raw material characteristics on the freezing process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- product/process changeover procedures and responsibilities where relevant
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on freezing machinery and equipment • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • production schedule and batch instructions • specifications, control points and processing parameters • information on equipment capacity and operating parameters • freezing process and related equipment and services • materials to be frozen • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Freezing methods	<p>Freezing methods may include:</p> <ul style="list-style-type: none"> • air freezing • contact freezing • cryogenic freezing
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shut down procedures	<p>Shut down procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2057A Operate a membrane process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate, adjust and shut down a membrane process used to separate the components of solutions and suspensions.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment such as a dairy product production. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of equipment used to separate solutions and suspensions.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out unit FDFOP2011A Conduct routine maintenance should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the membrane equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the membrane process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the membrane process	3.1. The appropriate shutdown and cleaning procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- Access workplace information to identify membrane processing requirements
- Select, fit and use personal protective clothing and/or equipment
- Confirm supply of necessary materials and services
- Conduct pre-start checks. This may involve inspecting equipment/membrane condition to identify any signs of wear; selecting appropriate settings and/or related parameters; cancelling isolation or lockouts as required; confirming that equipment such as pumps, valves and pipework are clean and correctly configured for membrane processing requirements; sensors and controls are correctly positioned; any scheduled maintenance has been carried out, and that all safety guards are in place and operational
- Start, operate, monitor and adjust membrane processing equipment to achieve required outcomes. This may include monitoring control points and conducting inspections as required to confirm process remains within specification. This may include monitoring:
 - temperatures
 - flow rates
 - total solids
 - pressure/vacuum
- Monitor supply and flow of materials to and from the membrane process
- Conduct run/batch changeovers
- Take corrective action in response to out-of-specification results
- Respond to and/or report equipment failure within level of responsibility
- Locate emergency stop functions on equipment
- Follow isolation and lock out/tag out procedures as required to take membrane processing and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- Follow procedures to clean membranes
- Complete workplace records as required
- Maintain work area to meet housekeeping standards
- Use process control systems according to enterprise procedures
- Conduct routine maintenance according to enterprise procedures
- Collect samples and conduct tests according to enterprise procedures
- Use oral communication skills / language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- Work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- Purpose and basic principles of membrane processing. This includes an understanding of the components of milk, particle size of each component and the effect on these components of membrane processing. It also includes an understanding of the methods used to achieve this outcome
- Basic operating principles of equipment. This may include an operational understanding of main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation. It also includes an awareness of the material composition of membranes used in the workplace and related operating, cleaning and storage requirements
- The flow of the membrane process including the different processing streams and the effect of the membrane process outputs on downstream processes
- Quality characteristics required of the membrane processing outputs
- The effect of variation in raw material characteristics on membrane processing performance
- Operating requirements and parameters and corrective action required where operation is outside specified operating parameters. This includes an understanding of the effect of variation in processing parameters such as temperature, pressure, total solids and flow rates on membrane process performance
- Typical equipment faults and related causes. This includes recognition of signs and symptoms of faulty equipment and early warning signs of potential problems
- Techniques used to monitor membrane processing. This may include inspecting, measuring and testing as required by the process. It requires awareness of inspection or test points (control points) in the process and the related procedures and recording requirements
- Contamination/food safety risks associated with the process and related control measures
- Common causes of variation and corrective action required
- OHS hazards and controls. This includes awareness of the limitations of protective clothing and equipment relevant to the work process
- Requirements of different shutdowns as appropriate to membrane processing and workplace production requirements. This includes emergency and routine shutdowns and procedures to follow in the event of a power outage and shutdown
- Cleaning and sanitation requirements associated with changeovers
- Isolation, lock out and tag out procedures and responsibilities
- Procedures and responsibility for reporting production and performance information
- Environmental issues and controls relevant to membrane processing. This includes waste collection and handling procedures related to the process

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• Basic operating principles of process control where relevant. This includes the relationship between control panels and systems and the physical equipment• Routine maintenance procedures where relevant• Sampling and testing associated with process monitoring and control where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for separation process • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OH&S hazards and controls • safely shut down equipment • apply food safety procedures to work practices
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, batch/recipe instructions • information on equipment capacity and operating parameters • production schedule and batch instructions • specifications, control points and processing parameters • membrane processing and related equipment and services • materials required for membrane processing • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning and sanitation procedures, materials and equipment as required
Method of assessment	<p>This unit should be assessed together with core units and other units of competence relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2030A Operate a process control interface • FDFOP2013A Apply sampling procedures • PMLTEST300B Perform basic tests • FDFOP2011A Conduct routine maintenance • FDFOP2003A Clean work area and in place equipment • FDFOP2004A Clean and sanitise equipment
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity
Workplace information	Workplace information may include Standard Operating Procedures (SOPs), specifications, production schedules and instructions, manufacturers' advice, standard forms and reports
Membrane modules	Membrane modules may be flat sheet (plate), spirally wound, hollow fibre, or tubular and may have a symmetrical, asymmetric or composite asymmetric structure. Related equipment typically includes pipework, valves and pumps, and refrigeration equipment
Shutdown procedures	Shutdown procedures may include cleaning. In some cases cleaning may be carried out by a dedicated cleaning crew
Operation of equipment and processes	Operation of equipment and processes may require the use of process control panels and systems
Services	Services are appropriate to the process to be operated. Typical examples include power, steam, water, vacuum, and compressed and

RANGE STATEMENT	
	instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2058A Operate a holding and storage process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a holding/storage process under conditions that control the quality of the product.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment, such as processing of raw milk and/or processed products within a dairy production enterprise. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of equipment used to hold and store products, such as silos and holding tanks.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the holding and storage equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the holding and storage process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that specifications are met</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Environmental procedures and standards are achieved</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the holding and storage process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify requirements for the holding and storage process
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services for the holding and storage process
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust holding and storage process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - time/temperature
 - flow rates
 - agitation speed
 - equipment condition and performance
- monitor supply and flow of materials to and from the holding and storage process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take holding and storage process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the holding/storage process including the importance of stock rotation
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the holding and storage process and the effect of product output on downstream processes
- contamination/food safety risks associated with the process and related control measures
- quality characteristics to be achieved by the holding and storage process, such as organoleptic characteristics of the product
- effect of raw material characteristics on the holding and storage process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- techniques used to monitor the holding and storage process, such as inspecting, measuring and testing as required by the process
- or test points (control points) in the process and the related procedures and recording requirements
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the holding and storage process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for holding and storage of food products • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules and batch/recipe instructions • specifications, control points and processing parameters • information on equipment capacity and operating parameters • production schedule and batch instructions • holding and storage process and related equipment and services • materials required for a holding/storage process • sampling schedules and test procedures and equipment as required • routine preventative maintenance schedule as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Holding/storage equipment	<p>Holding/storage equipment may include:</p> <ul style="list-style-type: none"> • silos • intermediate storage tanks • aseptic storage tanks • mixing/blending tanks • process tanks • balance tanks
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be

RANGE STATEMENT	
	carried out by a dedicated cleaning crew)
Services	<p>Services are appropriate to the holding and storage process to be operated. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2059A Operate a continuous freezing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, monitor and shut down a continuous freezing process typically used to manufacture ice cream, ice confection and/or frozen food products.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a batch or continuous freezing process.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the freezing equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Monitor the freezing process operation	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the freezing process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - flow rates
 - churn speed
 - time/temperature
 - ingredient addition systems
 - pressures
 - equipment condition and performance
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- demonstrate batch/product changeovers according to enterprise procedures (may not apply to some continuous operations)
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for

REQUIRED SKILLS AND KNOWLEDGE

clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the process, including the stages that occur during the churning and freezing process and the required physical and microstructure of the product
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the freezing process and the effect of outputs on downstream processes
- additives and ingredients used and their role in the product
- quality characteristics to be achieved by the freezing process
- quality requirements of materials/ingredients and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the production process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- product/process changeover procedures and responsibilities where relevant
- sampling and testing associated with process monitoring and control where

REQUIRED SKILLS AND KNOWLEDGE

relevant

- | |
|--|
| <ul style="list-style-type: none">• routine maintenance procedures where relevant• cleaning procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for continuous freezing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedules and batch instructions • specifications, control points and processing parameters • freezing process and related equipment and services • materials/ingredients to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Freezing and related equipment	Freezing and related equipment may include: <ul style="list-style-type: none"> • in-line extruders • dashers • churns • pumps • fruit feeder, • hardening rooms/tunnels/machines
Materials	Materials used in freezing may include: <ul style="list-style-type: none"> • fat • milk solids not fat • sugars • emulsifiers

RANGE STATEMENT	
	<ul style="list-style-type: none"> • stabilisers • water • flavours • colours • bulking agents
Operation processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

Co-requisite units		

FDFOP2060A Operate an automated cutting process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down an automated cutting process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of cutting equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the automated cutting equipment and process for operation	1.1. Carcasses/pieces are confirmed and available 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet safety, type/size and cutting requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the automated cutting process	2.1. Carcasses/pieces are inspected to confirm that quality requirements are met 2.2. Carcasses/pieces are hung to meet production pace 2.3. Equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. Quality and accuracy of cuts is monitored to confirm that specifications are met 2.6. Out-of-specification outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. The work area is maintained according to housekeeping standards 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the automated cutting process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify cutting requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary carcasses/pieces and services, including inspecting and removing carcasses/pieces of unacceptable quality
- conduct pre-start checks, such as inspecting equipment condition to identify blade sharpness and other signs of wear, selecting appropriate settings and/or related parameters according to bird size/type, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for cutting process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, confirming that all safety guards are in place and operational and running, and trialing cut to confirm accuracy/positioning where required
- start, operate, monitor and adjust automated cutting process equipment to achieve required outcomes, including hanging carcasses/pieces to meet production pace, such as monitoring control points and conducting inspections as required to confirm cut accuracy within specification
- monitor supply and flow of carcasses/pieces to and from the automated cutting process
- take corrective action in response to out-of-specification results, including adjusting blades/knives within level of responsibility
- respond to and/or report equipment failure within level of responsibility
- demonstrate procedure to adjust equipment for bird/portion type/size
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take automated cutting process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance such as blade replacement according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the automated cutting process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the flow of the automated cutting process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the automated cutting process, including quality specifications and ability to assess cut quality and determine any required adjustments
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the automated cutting process, including inspecting the quality of cuts
- inspection or test points (control points) in the automated cutting process and the related procedures and recording requirements, such as recording information (e.g. temperatures and product codes)
- contamination/food safety risks associated with the automated cutting process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the automated cutting process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the automated cutting process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for cutting
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- automated cutting process and related equipment and services
- carcasses/pieces to be processed
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment• FDFOP2011A Conduct routine maintenance• FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Production equipment	<p>Production equipment may include:</p> <ul style="list-style-type: none"> dedicated single and/or multiple cutting equipment shackles and conveyor systems
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples

RANGE STATEMENT

	include: <ul style="list-style-type: none"> • power • water • instrumentation air
--	--

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP2061A Use numerical applications in the workplace

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This is unit of competency covers the skills and knowledge required to apply basic mathematical functions of addition, subtraction, multiplication and division to undertake workplace calculations or to estimate approximate answers when exact calculations are not required.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a production environment where basic mathematics may be required to undertake or support work processes. Typical applications of mathematical concepts in the workplace include but are not limited to measuring or estimating product characteristics, such as weight, capacity, time and temperature; measuring and estimating material usage, quantities and ratios; measuring equipment and processing parameters, such as speed/throughput; and calculating entitlements, such as pay, leave entitlements, and shift allowances.</p> <p>The unit requires both calculation and estimation skills with the choice between calculation and estimation dependent on the particular process and sector.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply basic mathematical concepts to calculate workplace information	1.1. Calculation requirements are identified and appropriate method is selected 1.2. Data is obtained from relevant sources and interpreted correctly. 1.3. Calculations are undertaken using addition, subtraction, multiplication and division to support work role
2. Apply basic mathematical concepts to estimate workplace information	2.1. Estimation requirements are identified and appropriate estimation method is selected 2.2. Data is obtained from relevant sources and interpreted correctly. 2.3. Estimations are made to meet work requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify whether a calculation or estimation is required to meet workplace requirements
- carry out calculations involving basic addition, subtraction, division and multiplication to support work role (this may involve use of a calculator and conversion tables where required)
- use estimation techniques to check quantities, ratios, speed and other required data estimates
- use estimation techniques to check calculated results and workplace data
- record calculations and measurement information accurately according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- mathematical processes, including addition, subtraction, multiplication and division
- application of calculation and estimation techniques to meet work requirements
- units of measurement used in the workplace, including whole numbers, fractions and decimals (to one decimal point) (this may include use of conversion charts)
- representation of numerical information relevant to work requirements, such as charts, graphs and tables
- recording requirements and responsibilities where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify calculation or estimation requirements • carry out calculations involving basic addition, subtraction, division and multiplication • where estimations are used, estimated amounts must be consistent with process or product specification and demonstrate knowledge of measurement units used in the workplace • use estimation techniques to check calculated results and workplace data.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work tasks requiring simple estimation and calculation • conversion tables, calculators and measuring instruments where required • workplace forms/documents used for recording data where required.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the function or work role. Example could be:</p> <ul style="list-style-type: none"> • FDFOP2015A Apply principles of statistical process control.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Calculations

Calculations may include:

- the use of whole numbers, decimals, fractions and percentages

Calculations may be made:

- manually or using calculators and other measuring instruments as appropriate to the task

Estimations

Estimations can be used where the workplace tasks require only an approximate judgment of an amount, ratio, speed, and so on. Estimations can be made from:

- observations of other amounts or measurements
- supplied data, such as volume or weight information on packaging of raw materials

Conversion charts

Conversion charts are those in common use in the workplace

Results

Results may or may not be recorded depending on workplace requirements

Numerical information

Numerical information may be presented in forms, including:

- simple run charts
- graphs

Unit Sector(s)

Unit sector	Operational
-------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFOP2062A Apply work procedures to maintain integrity of product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to maintain product integrity in non-human food manufacturing operations.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a production environment where the products are not intended for human consumption. It targets the knowledge and skills required by an operator to maintain the integrity of input materials and final products during production processes.</p> <p>Note that this unit does not apply to the pharmaceutical industry. Refer to FDFPH1001A Follow work procedures to maintain Good Manufacturing Practice</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify materials and specifications for work process	1.1. Materials required for work processes are identified 1.2. Specifications and tests required to determine suitability of materials for work processes are identified 1.3. Materials are inspected or tested according to operating procedures 1.4. Work is conducted in accordance with workplace environmental guidelines 1.5. Out-of-specification materials are rejected and reported according to operating procedures
2. Handle materials and products safely	2.1. Handling requirements for input materials and products of work station or process are identified 2.2. Handling of materials and product is carried out according to the occupational health and safety (OHS) requirements of the enterprise 2.3. The workplace is maintained in a clean and tidy order to meet workplace standards and avoid contamination
3. Maintain integrity of product during processing	3.1. Materials and products are protected from contamination and exposure to pests 3.2. Product changeover procedures are followed to avoid cross contamination of products 3.3. Processes and conditions that are not consistent with specifications and safety procedures are identified and corrective action is taken within the level of responsibility 3.4. Access to work area is restricted and monitored during processing according to enterprise procedures
4. Maintain integrity of product post processing	4.1. Visual, metal scanning, and other contamination checks are conducted prior to packing and despatch 4.2. Packing materials are checked for cleanliness and integrity before use 4.3. Product is sealed, packed or despatched from work area according to product and process requirements
5. Comply with personal hygiene standards	5.1. Personal hygiene requirements appropriate to the process, product and workplace are followed 5.2. Clothing and personal protective equipment appropriate to the process, product and workplace are used

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access and interpret workplace information on materials and equipment used in production process
- examine production specifications
- identify and inspect materials and equipment
- handle, clean and store equipment, containers, packaging materials and similar items according to the requirements of the work role
- wear and maintain appropriate clothing/footwear as required by work tasks and consistent with production, safety and product integrity requirements
- maintain the work area in a clean and tidy state
- identify and report signs of pest infestation
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- requirements to maintain integrity of materials and finished products including weight, consistency, sterility where applicable, and conformance to specifications
- potential sources of bacterial, chemical and physical contamination in own workplace
- sources of further advice and assistance in the workplace
- actions required in the event of events that actually or potentially compromise the integrity of products or materials
- storage and handling requirements for ingredients, materials and product used related to work role
- housekeeping requirements and responsibilities relating to own work, including use and storage of housekeeping/cleaning equipment where relevant
- procedures to follow in the event of pest sighting or discovery of infestation

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify the materials used to manufacture products • identify main contamination risks • undertake any specified tests • identify common problems with raw materials in the production process and determine required action • follow correct procedures in the event of risk or non-conformance to specification of materials or products • access and interpret workplace information on raw materials.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • materials required for production • specifications, control points and processing parameters • process and related equipment and services, • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements if any are typically reflected in procedures and specifications. Relevant legislation may include:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering feed safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports

]

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFOP2063A Apply quality systems and procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to apply quality principles and system requirements when carrying out work responsibilities where work involves the operation of packaging and/or processing equipment.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food processing environment. It typically targets the production worker responsible for applying quality standards to work operations.</p> <p>Note that this unit does not apply to the pharmaceutical industry. Refer to FDFPH2001A Apply Good Manufacturing Practice procedures.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor quality of work outcome	1.1. Quality requirements are identified 1.2. Inputs are inspected to confirm capability to meet quality requirements 1.3. Work is conducted to produce required outcomes 1.4. Work processes are monitored to confirm quality of output and/or service 1.5. Processes are adjusted to maintain outputs within specification
2. Participate in maintaining and improving quality at work	2.1. Work area, materials, processes and product are routinely monitored to ensure compliance with quality requirements 2.2. Work is conducted in accordance with workplace environmental guidelines 2.3. Non-conformance in inputs, process, product and/or service is identified and reported according to workplace reporting requirements 2.4. Corrective action is taken within level of responsibility, to maintain quality standards 2.5. Quality issues are raised with designated personnel

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access and apply workplace information on quality requirements for own work
- identify control points or inspection points for own work and related methods used to monitor quality
- maintain quality of own work, including relevant checks and inspections where required in order to monitor control points and check and inspect equipment, materials, product, packaging consumables, processing conditions and service standards relevant to own work
- identify and correct variation within boundaries of work role, and use quality data where required
- determine when and how to make adjustments to maintain output within specified parameters
- identify and respond to out-of-specification or unacceptable inputs and/or outputs
- record quality data in required format
- conduct tests related to work responsibilities according to enterprise procedures
- collect samples as required by sampling regime according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- quality policy, procedures and responsibilities
- quality system used in the workplace, including the relationship between the quality system and food safety program, sources of information on quality requirements, the role of internal and external auditors, as appropriate, and performance improvement processes
- basic concepts of quality assurance including hazards, risk assessment and control methods
- requirements of internal and external customers
- control points for own work, including the purpose of the control point, the risk if not controlled and the method of control used
- monitoring, testing and inspection procedures relating to process control requirements
- scope to correct/control variation within equipment and process capacity

REQUIRED SKILLS AND KNOWLEDGE

parameters

- evidence of out-of-specification or unacceptable performance
- procedures for responding to out-of-specification or unacceptable performance/outcomes, including procedures for identifying or isolating materials or product of unacceptable quality
- systems used to trace product ingredients as relevant to own work
- requirements to report and record quality information
- sampling and test methods and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify quality requirements and key elements of the quality system • conduct work according to quality standards • monitor quality and identify and act on non-compliances • participate in identifying quality system improvements.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • quality policy, system and procedures, including company codes of practice/Good Manufacturing Practice (GMP) • work tasks and responsibilities • workplace information relating to work tasks, including specifications, work instruction and other advice on quality requirements and procedures • sampling and test procedures and related equipment as required • systems for recording quality information.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFFS2001A Implement the food safety program and procedures • FDFOP2013A Apply sampling procedures • MSL973001A Perform basic tests.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of</p>

EVIDENCE GUIDE	
	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing and regulatory requirements, legislative requirements and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • quality specifications • food safety plans • log sheets • standard forms and reports
Control points	Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) as well as quality and regulatory control points
Monitoring quality	Monitoring quality includes observation and other checks, tests or inspections to confirm that the work output meets defined specifications or quality standards. This can include the use of data collection and analysis tools, such as control charts. Tests or inspections may be carried out by the operator, a third party or be automated
Reporting and recording systems	<p>Reporting and recording systems may be:</p> <ul style="list-style-type: none"> • verbal • written • electronic • screen-based
Participating in improvement	<p>Participating in improvement may involve:</p> <ul style="list-style-type: none"> • participation in structured improvement programs • one-off projects

RANGE STATEMENT

- | | |
|--|--|
| | <ul style="list-style-type: none">• day-to-day problem solving |
|--|--|

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFOP2064A Provide and apply workplace information

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to identify, collect and provide information to convey meaning to others.
------------------------	--

Application of the Unit

Application of the unit	This unit typically targets the worker responsible for applying basic communication skills and providing information to support work practices. Information is previously generated and may be in a written or verbal form. Information can include data, charts, instructions, operating procedures, codes, production information, and simple reports (e.g. a breakdown report). Information can be provided to other members of a team, a supervisor, or maintenance staff. Communication skills include verbal and non-verbal methods and basic literacy according to the level of work information needs.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Provide and apply information to suit workplace and audience requirements	1.1. Information requirements for work operations are identified 1.2. Information is collected and assessed 1.3. Information is selected and structured in a logical way to convey meaning to others 1.4. Appropriate methods are used to communicate effectively with others
2. Respond to information requests	2.1. Information requests are processed promptly and courteously 2.2. Effective listening and verbal communication skills are applied to obtain information 2.3. The nature of requests is clarified 2.4. Appropriate information is provided in response to requests 2.5. Information is provided in a form appropriate to the enquirer 2.6. Requests are referred to the appropriate personnel where they fall outside area of responsibility
3. Use and maintain workplace information	3.1. A range of information sources is accessed to support work requirements 3.2. Information is recorded in appropriate formats according to workplace reporting requirements 3.3. Work is conducted in accordance with workplace environmental guidelines 3.4. Information is analysed to meet work requirements 3.5. Effective listening and verbal communication skills are applied to exchange information

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify and access information to undertake work responsibilities
- seek information from people in the workplace to support work roles and responsibilities
- ascertain or clarify information requirements by asking questions
- prepare simple written or verbal presentations that structure and present information in a logical sequence
- present information appropriate to audience and information purpose, such as use of graphs and/or diagrams as appropriate (the audience may include people from diverse cultural backgrounds and with people with limited ability to speak or understand English)
- participate with others to achieve work outcomes using interactive communication processes
- participate in group discussions and processes as required, including demonstrating active listening skills and participating constructively in discussions
- respect and, where appropriate, represent the views of others
- record information in required format/s
- apply effective listening, questioning and verbal skills
- apply reading and writing skills to the level required by work operations
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- communication channels, including consultative arrangements established in the workplace
- common colloquial and technical terms relating to work function
- sources of information and advice relating to work responsibilities
- methods and technologies used to access, record and store workplace information, including print, and screen-based systems as relevant to the workplace
- presentation techniques to convey information on a range of typical workplace subjects appropriate to the audience
- recognition of different personal communication styles and appropriate communication options
- recognition of cultural diversity as appropriate in the workplace
- reporting roles and responsibilities
- interpersonal skills including active listening, questioning, seeking and responding

REQUIRED SKILLS AND KNOWLEDGE

to feedback

- | |
|--|
| <ul style="list-style-type: none">• basic meeting procedures to identify and achieve meeting/discussion outcomes |
|--|

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • use, interpret and apply work-related information presented in a variety of forms • select and apply communication methods to present information to others • respond to information requests • record and maintain information in required work formats.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • advice on work roles and responsibilities • opportunities to interact with others using typical workplace communication processes • typical group forums, such as work groups and committees • typical workplace information • information systems and procedures • standard forms and equipment (as required) for recording workplace information.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role. Examples could be: <ul style="list-style-type: none"> • FDFOP1007A Participate effectively in a workplace environment • FDFOP2005A Work in a socially diverse environment • TLIK107C Use infotechnology devices and computer applications in the workplace.
Guidance information for	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Workplace information

Workplace information may include:

- standard operating procedures (SOPs)
- specifications
- production schedules and instructions
- signs and symbols
- materials safety data sheets (MSDS)
- manufacturers' advice
- standard forms and reports

Information to be accessed/conveyed

Information to be accessed/conveyed may be verbal, written and/or screen based and may include:

- symbols
- charts
- signs
- data
- instructions
- pictures and diagrams as relevant to own work

Typical subjects for communication

Typical subjects for communication include:

- work functions
- shift handovers
- company policies and codes of practice
- rights and responsibilities
- procedures
- employment conditions and entitlements

Interactive communication processes

Interactive communication processes include:

- active listening
- turn taking
- questioning and tolerating the views of others
- seeking and providing constructive feedback

RANGE STATEMENT**Recording and/or accessing information electronically**

Recording and/or accessing information electronically does not require an understanding of the programs used and the function involves limited interaction, such as simple keyboard operations.

Unit Sector(s)**Unit sector**

Operational

Competency field**Competency field****Co-requisite units****Co-requisite units**

FDFOP2065A Work in confined spaces in the food and beverage industries

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit specifies the competency required to work in a confined space (enclosed or partially enclosed) for the purpose of carrying out work in food and beverage industries. This unit includes entry and exit procedures, assessment of associated risks and how to operate safely in a confined space which is at atmospheric pressure during occupancy.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit is appropriate for those working in confined space (enclosed or partially enclosed) for the purpose of carrying out work or inspections at food and beverage related worksites. It is also appropriate for those performing sentry or stand-by person roles.</p> <p>Working in confined spaces in the food and beverage industries may include accessing vessels used to store, transport or process raw materials, in process product, and finished food and beverages. Confined space work will include normal access and exit skills as required by regulation and also skills to maintain or restore the suitability and hygiene of the confined space. Some applications of the unit may also include accessing spaces partially filled with product e.g. grain silos.</p> <p>Examples of industry sectors where this unit may apply include brewing, wine, dairy processing, fruit and vegetable packing and processing, grain processing, poultry processing etc.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	FDFOHS2001A Participate in OHS processes
---------------------------	--

Employability Skills Information

Employability skills	The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
2) Plan and prepare for entering and working in confined spaces	<ol style="list-style-type: none"> 1. Compliance documentation relevant to entering and working in confined spaces is accessed, interpreted and applied 2. Work instructions relevant to the allotted task are obtained, confirmed and applied 3. Safety requirements relevant to the allotted task are obtained, confirmed and applied 4. Authorisation (entry permit) is obtained to enter the confined space in accordance with regulatory requirements 5. Emergency response procedure is confirmed with the stand-by person 6. Signage and barrier requirements are identified, obtained and implemented as required by task and regulations 7. Tools and equipment are selected to carry out tasks that are consistent with the requirements of the job, checked for serviceability and faults rectified or reported 8. Environmental protection requirements are identified, confirmed and applied as appropriate to task and enterprise environmental management plan 9. Rescue equipment is positioned as required by the entry permit close to the point of entry
3) Enter and work in the confined space	<ol style="list-style-type: none"> 1. Access to the confined space is gained 2. The atmosphere is tested and monitored for harmful elements in accordance with procedures 3. Tagging and lock-out procedures are applied as required 4. Confined space is entered in accordance with required procedure 5. Communication is maintained with the stand-by person 6. Entry permit requirements are complied with while carrying out designated work in confined space 7. Allocated entry time is monitored and adhered to 8.
4) 3. Exit confined space	<ol style="list-style-type: none"> 1. Confined space is exited according to agreed procedure 2. Tools, equipment and materials are recovered from the confined space 3. Inspection of the confined space is conducted to ensure it is left safe and fit for purpose 4. Access is secured according to site procedures 5. Tagging and lock-out is removed according to site procedures 6. Confined space entry log is completed

ELEMENT	PERFORMANCE CRITERIA
5) 4. Clean up	<ol style="list-style-type: none">1. Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan2. Tools and equipment are cleaned, checked, maintained and stored in accordance with recommendations and standard work practices3. Barriers and signs are removed, cleaned and stored

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to enter and work in confined spaces:

- apply legislative, organisation and site requirements and procedures
- apply operational, maintenance and basic diagnostic procedures to ensure safety of self and others
- apply operational, maintenance and basic diagnostic procedures to ensure hygiene and integrity of product to be subsequently stored or processed in bins, vessels, tanks, etc
- apply materials handling methods
- use atmospheric monitoring devices
- interpret Job Safety Analysis/Safe work method statements
- use oral communication skills / language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to enter and work in confined spaces:

- site and equipment safety requirements
- confined space entry and exit procedures, risks and regulations
- air contaminants and toxic gases
- breathing apparatus limitations
- equipment types, characteristics, technical capabilities and limitations
- site isolation and site control responsibilities and authorities
- materials safety data sheets (MSDS)
- project quality requirements
- industry terminology
- state and territory interpretations of a confined space

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with confined space regulations and any other relevant standards and procedures</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for entering and working in confined spaces • implementation of requirements, procedures and techniques for the safe, effective and efficient completion for entering and working in confined spaces • working with others to undertake and complete the entering and working in confined spaces that meet all of the required outcomes • consistent timely completion of entering and working in confined spaces that safely, effectively and efficiently meets the required outcomes
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required <ul style="list-style-type: none">documentation and recording requirements and procedures
Method of assessment	This unit should be assessed together with other units of competence relevant to the function or work role relating to the confined space working requirement.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Relevant compliance documentation

May include:

- legislative, organisation and site requirements and procedures including any hygiene, food safety or product integrity requirements
- manufacturer's guidelines and specifications
- Australian standards
- codes of practice

Work instructions

May include:

- plans
- specifications
- quality requirements
- food safety requirements
- personal hygiene requirements
- product integrity requirements
- operational details

RANGE STATEMENT	
Safety requirements	<p>May be included in:</p> <ul style="list-style-type: none"> • site safety plans • organisational policies and procedures • statutory/regulatory authorities which may include: • Federal, State and local authorities • verbal or written and graphical instructions • signage • work schedules/plans/specifications • work bulletins • charts and hand drawings • memos • maps • materials safety data sheets (MSDS) • diagrams or sketches • safe work procedures or equivalent related to working in confined spaces • regulatory/legislative requirements pertaining to working in confined spaces • manufacturers' specifications and instructions • organisation's work specifications and requirements • instructions issued by authorised organisational or external personnel • relevant Australian Standards
Safety requirements	<p>May include</p> <ul style="list-style-type: none"> • OHS requirements • Personal protective clothing and equipment as prescribed under legislation, regulation and workplace policies and practices • use of tools and equipment • workplace environment and safety • handling of materials • use of fire fighting equipment • use of First Aid equipment • hazard control and hazardous materials and substances • safe operating procedures including recognising and preventing hazards associated with working in confined spaces, working in proximity to others, worksite visitors and the public • hazards and risks may include but not be limited to

RANGE STATEMENT	
	<p>fires, underground services, excavations, fall risks, traffic, hazardous materials, pathogens, contaminated atmosphere and toxic gases</p> <ul style="list-style-type: none"> risks associated with confined spaces may include but not be limited to restricted means of entry and exit, atmosphere which contains potentially harmful levels of contaminants, unsafe oxygen levels or engulfment, hot or extremely cold equipment, surfaces which may be wet, slippery or uneven respiratory protection devices are to include but not be limited to air purifying respirators and may include self contained compressed air breathing apparatus, supplied airline breathing apparatus and escape breathing apparatus and atmospheric monitoring devices
Confined space entry permit, or work permits	<p>May include:</p> <ul style="list-style-type: none"> location of work duration of work size of work crew atmospheric testing requirements personal protective equipment hot work stand-by personnel rescue arrangements other precautions (signs, barriers) authorisation
Confined spaces	<p>May include:</p> <ul style="list-style-type: none"> storage tanks and bins, road and rail tankers and wagons, process vessels, stills, boilers, pressure vessels, silos and other tank-like compartments open-topped spaces such as pits or degreasers pipes, drains, shafts, ducts and similar structures
Signage	<p>May include:</p> <ul style="list-style-type: none"> site safety signage temporary signage for the benefit of visitors temporary signage and barricades where confined space work is in close proximity to motorists and pedestrians
Gain access	<p>May include:</p> <ul style="list-style-type: none"> removing access cover

RANGE STATEMENT	
	<ul style="list-style-type: none"> • venting, cooling, use of PPE, and other pre-entry procedures to protect self and/or product • confirmation of isolation of services e.g. power, steam etc. • installing and securing ladder
Secure access	<p>May include:</p> <ul style="list-style-type: none"> • replacing or closing off access cover • locking or other securing of area access
Tools and equipment	<p>May include:</p> <ul style="list-style-type: none"> • harness and lifeline • respirator apparatus • atmospheric testing equipment • signs • barricades • communication devices • portable lighting e.g. torches • tools and equipment relevant to the work to be performed
Environmental protection requirements	<p>May include:</p> <ul style="list-style-type: none"> • organisational/project environmental management plan • waste management • water quality protection • noise • vibration • dust • clean-up management
Communications	<p>May include:</p> <ul style="list-style-type: none"> • fault reporting • 2-way radio • hand signals • mobile phone • site specific instructions • written and verbal instructions related to job/task

Unit Sector(s)

Unit sector	Optional
-------------	----------

Custom Content Section

Not applicable.

FDFOP2066A Operate a wort production process

Modification History

New Unit.

Unit Descriptor

This unit covers the milling and mashing of malted grain, wort separation, wort treatment and the addition of adjuncts in beer production.

Application of the Unit

This unit applies to operators and other personnel responsible for wort production in a brewery. It applies to wort production in both large and small enterprises. Work is undertaken to specifications and requirements developed by brewers, supervisors or other qualified personnel. The unit includes complying with quality and standard operating procedures and conducting of routine changeovers.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFOP2071A Identify key stages and beer production equipment in a brewery

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the wort production process for operation	1.1 Production requirements are checked 1.2 Availability of required materials is confirmed 1.3 Availability of services is confirmed 1.4 Pre-operational checks of equipment are conducted 1.5 The wort production process is set to meet production requirements
2 Operate and monitor the wort production system	2.1 The wort production system is started up according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Required tests are undertaken 2.4 System and sub-system outputs meet specification 2.5 Equipment is monitored to confirm operating condition 2.6 Out-of-specification wort, process and equipment performance is identified, rectified and/or reported 2.7 Production and other workplace information is recorded in the appropriate format
3 Shut down the wort production system	3.1 The wort production system is shut down according to company procedures 3.2 Equipment is cleaned and maintained to meet cleaning schedules and procedural requirements 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to company procedures
4 Contribute to continuous improvement of the wort production system	4.1 Quality or process outputs are assessed against specifications 4.2 Opportunities for improvement are identified and investigated 4.3 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- set up and start the milling process
- set up and start the mashing and lautering process
- set up and start the wort separation process
- set up and start the wort boiling and cooling process
- add raw materials e.g. hops, malt
- operate a heat exchange procedure
- operate a cool wort aeration procedure
- transfer fluids and materials between vessels
- handle dangerous goods
- operate and monitor equipment associated with wort production
- monitor control points
- identify OHS hazards and controls
- select, fit and use personal protective clothing and equipment
- undertake shutdowns and changeovers
- comply with procedures and responsibilities for reporting problems
- comply with environmental procedures and controls
- follow waste handling requirements and procedures
- record required production data
- undertake routine maintenance procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- purpose and principles of the wort production process
- relationship between the wort production process and the fermentation process
- stages and changes which occur during wort production
- requirements of wort production
- purpose of malt, hops, water, adjuncts and the preparation procedure
- correct procedures for handling dangerous goods
- dust explosion hazards and control procedures

- quality characteristics to be achieved
- wort process specifications, procedures and operating parameters
- the importance of temperature, temperature control systems and temperature intervals during wort production
- Purpose of equipment and instrumentation components
- significance and methods of monitoring control points within the wort production process
- common causes of variation and corrective action required
- cleaning requirements associated with changeovers and types of shutdowns
- procedures for reporting problems
- sampling and testing procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify production requirements for the wort production process • interpret the schedules and specifications • confirm the supply of necessary materials and services to the wort production process • confirm equipment status and condition • set up and start specified equipment including any process control systems • monitor the wort production process and equipment operation to identify out-of-specification results • monitor supply and flow of materials to and from the process • take corrective action in response to out-of-specification results or non-compliance • conduct product/beer type changeovers • maintain workplace records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety and environmental requirements • production schedule, batch instructions • material data safety sheets where appropriate • information on specifications, control points and production parameters • wort production equipment • wort production raw materials/ingredients • services as required • stock required for the wort production process • stock flow system

	<ul style="list-style-type: none"> • related work areas and communication system • routine preventative maintenance schedule as required • cleaning schedule as required • sampling and testing schedules as required • documentation and recording requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Wort production process</p>	<p>The wort production process may include:</p> <ul style="list-style-type: none"> • receiving raw ingredients • measuring raw ingredients • milling malted grain to produce grist • whirlpool (wort calcification) • mashing conversion to create fermentable wort • wort separation • boiling • cooling process • wort oxygenation • production quality checks • transferring to fermentation vessels.
<p>Materials and ingredients</p>	<p>Materials and ingredients used in wort production may include:</p> <ul style="list-style-type: none"> • malted cereals • hops • water • liquid and solid adjuncts such as sugars • process aids • oxygen.
<p>Services</p>	<p>May include:</p> <ul style="list-style-type: none"> • power • gas • water • steam • compressed air • refrigeration.
<p>Required tests</p>	<p>Required tests may include:</p> <ul style="list-style-type: none"> • starch testing (mash tun) • gravity (cool wort) • acidity (cool wort) • colour spectrometer (cool wort) • bitterness (cool wort).

Wort production equipment	<p>Wort production equipment may include:</p> <ul style="list-style-type: none"> • brew house mill • malt batch weighers • storage systems (silos etc.) • whirlpools • mash tuns • mash conversion vessels and mash cookers • lauter tuns • automated hops addition systems • heat exchangers • aeration equipment • filters • coppers and kettles • valves • pumps • water treatment systems • tanks • mixing, blending and cleaning equipment • spent grain handling equipment • equipment accessories • monitoring instruments (starch, gravity, acidity, colour and bitterness) • transfer systems and equipment.
Control points	<p>Refers to the key points in a work process which must be monitored and controlled. This includes food safety, (critical), quality, and regulatory control points as well as inspection points. Monitoring may involve the use of production data such as performance control charts.</p> <p>Process operation and monitoring functions may be manual or involve the use of a process control system.</p>
Equipment is monitored	<p>Equipment monitoring includes ensuring that hygiene and sanitation standards are met, all safety guards are in place, and that equipment is operational. It may also include the calculation of raw materials.</p>
Workplace information may include:	<p>Standard Operating Procedures (SOPs); specifications and production schedules.</p> <p>Information systems may be print or screen based.</p>

Unit Sector(s)

Operations.

FDFOP2067A Operate a brewery fermentation process

Modification History

New Unit.

Unit Descriptor

This unit covers the preparation for and operation of processes used to ferment wort into beer. This includes pitching, fermentation control, yeast propagation and storage, and beer recovery.

Application of the Unit

This unit applies to operators and other personnel responsible for operating the fermentation process in a brewery. The unit applies to fermentation processes in both large and small breweries. Work is undertaken to specifications and requirements developed by brewers, supervisors or other qualified personnel. The unit includes complying with quality and standard operating procedures and conducting of routine changeovers.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFOP2071A Identify key stages and beer production equipment in a brewery

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the fermentation process for operation	1.1 Production requirements are checked 1.2 Availability of required materials is confirmed 1.3 Availability of services is confirmed 1.4 Pre-operational checks of equipment are conducted including checking that hygiene and sanitation standards are met and all safety guards are in place 1.5 The fermentation process is set to meet production requirements
2 Operate and monitor the system	2.1 The system is started up according to specified procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 System and sub-system outputs meet specification 2.4 Equipment is monitored to confirm operating condition 2.5 Temperature is monitored and controlled to confirm operating condition 2.6 Pressure is monitored and controlled in order to ensure operating condition 2.7 Analysis is undertaken to ensure yeast effectiveness and freedom from bacterial contamination
3 Recover beer if required	3.1 Yeast slurry is put through a beer recovery process in order to minimise beer wastage 3.2 Recovered beer is routed to appropriate tank or vessel
4 Shut down the system	4.1 The system is shut down according to company procedures 4.2 Equipment is cleaned and maintained to meet the cleaning schedule and procedural requirements 4.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to company procedures
5 Contribute to continuous improvement of the system	5.1 Quality or process outputs are assessed against specifications 5.2 Opportunities for improvement are identified and investigated 5.3 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures
6 Record information	6.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- pitch and crop yeast
- operate vessel transfer equipment
- handle dangerous goods according to procedures
- methods of monitoring control points within the fermentation process
- undertake corrective action required in the event of variation to specifications and operating parameters
- identify OHS hazards and implement appropriate action
- shutdown process and equipment and implement cleaning requirements associated with changeovers
- handle waste according to requirements and procedures
- clean and sanitise equipment according to enterprise procedures
- select, fit and use personal protective clothing and equipment
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- purpose and principles of the fermentation process
- relationship between the fermentation process, the wort production process and the maturation process
- stages and changes which occur during fermentation
- requirements of fermentation
- quality characteristics to be achieved
- process specifications, procedures and operating parameters
- significance of control points within the fermentation process
- equipment and instrumentation components, purpose and operation
- vessel cooling systems
- common causes of variation and corrective action required
- OHS hazards and controls
- procedures and responsibilities for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures

- recording requirements and procedures
- cleaning and sanitation procedures
- sampling and testing procedures
- routine maintenance procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify production requirements and schedules including type of beer being produced • confirm the supply of necessary materials and services to the fermentation process • confirm equipment status and condition • set up and start the process • propagate yeast (laboratory staff will usually undertake initial propagation) <ul style="list-style-type: none"> • adding oxygen based upon instruction • monitoring temperature • crop yeast for addition to wort • monitor supply and flow of materials to and from the process • add adjuncts as required • take corrective action in response to out-of-specification results or non-compliance and report and/or record corrective action as required • aerate wort/beer to encourage fermentation • conduct product/beer-type changeovers • prepare equipment for cleaning • conduct routine maintenance • operate a beer recovery procedure.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • standard operating procedures and related advice on specific safe work practices, company policies and codes of practice relating to OHS • advice on relevant legislation and codes of practice relating to OHS • personal protective clothing and equipment as

	<p>required</p> <ul style="list-style-type: none"> • relevant hazard control equipment • manual handling equipment as required • fermentation process equipment • fermentation raw material and other ingredients • information systems and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Fermentation process</p>	<p>The fermentation process may include:</p> <ul style="list-style-type: none"> • receiving wort • pitching • monitoring and adjusting pressure and temperature • yeast handling and removal • transfer of the beer to maturation.
<p>Services</p>	<p>May include:</p> <ul style="list-style-type: none"> • power • gas • water • steam • compressed air • refrigeration.
<p>Equipment</p>	<p>Equipment may include:</p> <ul style="list-style-type: none"> • pumps • fermentation vessels • recovery vessels • separators • cleaning equipment • equipment accessories • valves • vacuum relief systems • aeration equipment • transfer systems • propagation vessels. <p>Process equipment and operation and monitoring functions may be manual or involve the use of a process control system</p>
<p>Monitor the fermentation process and system may include:</p>	<p>Monitoring may include:</p> <ul style="list-style-type: none"> • use of production data such as performance control charts • monitor for out-of-specification results or noncompliance. These may include:

	<ul style="list-style-type: none"> • oxygen • carbon dioxide • gravity • acidity • colour • bitterness • bacteria • chemicals • temperature
Control points refer:	<ul style="list-style-type: none"> • to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points.
Workplace information may include:	<ul style="list-style-type: none"> • Standard Operating Procedures (SOPs); specifications and production schedules • Information systems may be print or screen based.

Unit Sector(s)

Operations.

FDFOP2068A Operate a beer maturation process

Modification History

New Unit.

Unit Descriptor

This unit covers the conditioning of green beer upon completion of the fermentation process including flavour maturation, clarification, stabilisation, conditioning, as well as use of additions and agents.

Application of the Unit

This unit applies to operators and other personnel responsible for conditioning of green beer. The unit applies to beer conditioning processes in both large and small breweries. Work is undertaken to specifications and requirements developed by brewers, supervisors or other qualified personnel. The unit includes complying with quality and standard operating procedures and conducting of routine changeovers. Where changeovers require maintenance related skills, the unit FDFOP2011A Conduct routine maintenance should be considered.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFOP2071A Identify key stages and beer production equipment in a brewery

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the maturation process for production	1.1 Maturation requirements are confirmed 1.2 Clarification requirements are confirmed including specifications for any additions and agents 1.3 Materials are confirmed and available to meet production requirements 1.4 Services are confirmed as being ready for operation 1.5 Equipment is checked to confirm readiness for use 1.6 The maturation process is set to meet production requirements
2 Operate and monitor beer maturation equipment	2.1 Equipment is started up according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 System and sub-system outputs meet specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process, equipment performance is identified, rectified and/or reported 2.6 Size and product changeovers are completed in accordance with batch instructions and standard operating procedures 2.7 Workplace information for the beer maturation process is recorded in the appropriate format
3 Shut down the system	3.1 The system is shut down according to company procedures 3.2 Equipment is cleaned and maintained to meet the cleaning schedule and procedural requirements 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to company procedures
4 Contribute to continuous improvement of the system	4.1 Quality or process outputs are assessed against specifications 4.2 Opportunities for improvement are identified and investigated 4.3 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures
5 Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- handle dangerous goods according to required procedures
- monitor control points within the maturation process
- confirming equipment status including checking that hygiene and sanitation standards are met and that all safety guards are in place and equipment is operational
- operate equipment and controls to achieve specifications including:
 - required temperature
 - required concentration of finings and other additions
 - transfers
 - disposal of sediment and other waste
- undertake corrective action in the event of variation to specification
- identify OHS hazards and implement appropriate action
- select, fit and use personal protective clothing and equipment
- procedures and responsibilities for reporting and solving problems
- environmental issues and controls
- shutdown process and equipment and implement cleaning requirements associated with changeovers
- waste handling requirements and procedures
- record production and other data according to procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- purpose and principles of the maturation process
- relationship between the maturation process, fermentation process and the filtration process
- stages and changes which occur during maturation
- requirements of maturation
- purpose of temperature control and cold storage in the maturation process
- purpose of protein absorbing agents
- purpose of oxygen scavenging agents
- purpose of tannin absorbing agents
- procedures for vessel transfer

- quality characteristics to be achieved
- process specifications, procedures and operating parameters
- significance and methods of monitoring control points within the maturation process
- equipment and instrumentation components, purpose and operation
- common causes of variation and corrective action required
- OHS hazards and controls
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures
- cleaning and sanitation procedures
- purpose of finings
- cask maturation
- sampling and testing procedures
- routine maintenance procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify production requirements and beer type for beer maturation process • confirm the supply of necessary materials and services to the maturation process • confirm equipment status and condition • set up and start the maturation process • receive green beer from the fermentation process or complete the maturation process in the fermentation tank • add additions and agents • monitor the maturation process and equipment operation to identify out-of-specification results or non-compliance • take corrective action in response to out-of-specification results or non-compliance • monitor supply and flow of materials to and from the process • report and/or record corrective action as required • conduct product/beer-type changeovers • dispose of waste sediment.
<p>Context of and specific resources for assessment</p>	<p>Assessment of this unit must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures including advice on OHS policy, system and procedures including relevant legislation and codes of practice, safe work practices, food safety and environmental requirements • standard operating procedures and related advice • personal protective clothing and equipment as required • relevant hazard control equipment and storage areas for hazardous goods as required

	<ul style="list-style-type: none"> • emergency and/or evacuation procedures for the potential range of hazards • manual handling equipment as required • maturation process equipment • maturation production ingredients including green beer supply, additions and agents • cleaning schedule as required • sampling and testing schedules as required • documentation and recording requirements and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Maturation process</p>	<p>The maturation process may include:</p> <ul style="list-style-type: none"> • Receiving fermented ‘green beer’ from the fermentation process • storing ‘green beer’ • adding agents and additives • monitoring temperature • clarification • conditioning • stabilisation • filtration • production quality checks • transferring matured beer to bright beer tanks.
<p>Indicators of out of specification beer during maturation</p>	<p>During monitoring of beer maturation, out of specification results may be indicated by:</p> <ul style="list-style-type: none"> • haze • colour • bitterness • incorrect levels of <ul style="list-style-type: none"> • carbon dioxide • oxygen • proteins • tannins.
<p>Materials used include:</p>	<p>Materials used includes green beer (fermented wort) and any of the following:</p> <ul style="list-style-type: none"> • clarifying agents • finings • sugar • colouring/caramel • hop extracts • head stabilising agents • carbon dioxide (CO₂).
<p>Services:</p>	<p>May include:</p> <ul style="list-style-type: none"> • power

	<ul style="list-style-type: none"> • gas • water • steam • compressed air • refrigeration.
Maturation equipment	<p>Maturation equipment may include:</p> <ul style="list-style-type: none"> • filters • valves • pumps • tanks • mixing and blending equipment • dosers • cellars • heat exchangers/chillers • cleaning equipment • equipment accessories • monitoring and chemical analysis instruments (oxygen, carbon dioxide, starch, gravity, acidity, colour and bitterness) • transfer systems. <p>Process equipment and operation and monitoring functions may be manual or involve the use of a process control system.</p>
Maturation system controls	<p>The maturation control system for operation and monitoring may be manual or involve the use of a process control system include and may also involve the use of production data such as performance control charts.</p>
Control points	<p>Control points to those key points in a work process which much be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points.</p>
Workplace information	<p>Workplace information may includes Standard Operating Procedures (SOPs), product and equipment manuals and specifications and production schedules. The information may be print or screen based.</p>

Unit Sector(s)

Operations.

FDFOP2069A Operate a beer filtration process

Modification History

New Unit.

Unit Descriptor

This unit covers the filtration of beer obtained from the maturation process into bright beer ready for transfer into bright beer tanks. It includes working within quality requirements and standard operating procedures.

Application of the Unit

This unit applies to operators and other personnel responsible for filtration of beer. It applies to filtration processes in both large and small breweries and includes monitoring of control points and specifications and complying with OHS and environmental procedures. Where changeovers require maintenance related skills, the unit FDFOP2011A Conduct routine maintenance should be considered.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFOP2071A Identify key stages and beer production equipment in a brewery

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
1 Prepare the filtration process for operation	1.1 Availability of required materials is confirmed 1.2 Availability of services is confirmed 1.3 Pre-operational checks of equipment are conducted including checking that hygiene and sanitation standards are met 1.4 The filtration process is set to meet production requirements
2 Operate and monitor the beer filtration system	2.1 The system is started up according to specified procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Blending of beer is undertaken if required as part of filtration process 2.4 System and sub-system outputs meet specifications 2.5 Equipment is monitored to confirm operating condition 2.6 Out-of-specification beer, process and equipment performance is identified, rectified and/or reported 2.7 Production and other workplace information is recorded in the appropriate format
3 Shut down the filtration system	3.1 The system is shut down according to company procedures 3.2 Equipment is cleaned and maintained to meet the cleaning schedule and procedural requirements 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to company procedures
4 Contribute to continuous improvement of the system	4.1 Beer quality and other process outputs are assessed against specifications 4.2 Opportunities for improvement are identified and reported 4.3 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures
5 Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify stages and changes during filtration
- identify correct filter aids, filtration beds and filters in the beer production process
- undertake vessel transfers according to specifications
- handle dangerous goods according to procedures
- confirming equipment status including checking that hygiene and sanitation standards are met and that all safety guards are in place and equipment is operational
- operate filtration equipment according to specifications, procedures and operating parameters
- monitor control points within the filtration process
- undertake required corrective action in the event of variations to specification and procedures
- identify OHS hazards and implement appropriate action
- select, fit and use personal protective clothing and equipment
- maintain work area to meet housekeeping standards
- shutdown filtration process and equipment and implement cleaning requirements associated with changeovers
- apply waste handling requirements and procedures
- record information requirements and procedures
- apply routine maintenance procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- purpose and principles of the filtration process
- relationship between the wort production process, fermentation process, maturation process, bright beer tanks and the fermentation process
- stages and changes which occur during filtration
- requirements of filtration
- purpose of filter aids, filtration beds and filters in the beer production process
- quality characteristics to be achieved
- process specifications, procedures and operating parameters
- significance and methods of monitoring control points within the filtration process
- equipment and instrumentation components, purpose and operation

- common causes of variation and corrective action required
- OHS hazards and controls
- procedures and responsibilities for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- cleaning and sanitation procedures
- sampling and testing procedures
- routine maintenance procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify filtration requirements and schedules including type of beer being filtered • confirm the supply of necessary materials and services to the filtration process • confirm equipment status and condition • set up, start, operate and shut down the filtration process • pre-coat a filter mesh or cloth with filter aid • dose pre-filtered beer with filter aid • monitor the filtration process and equipment operation to identify out-of-specification results or non-compliance • take corrective action in response to out-of-specification results or non-compliance • conduct product/beer-type changeovers.
<p>Context of and specific resources for assessment</p>	<p>Assessment of this unit must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures including advice on OHS policy, system and procedures including relevant legislation and codes of practice, safe work practices, food safety and environmental requirements • standard operating procedures and related advice • personal protective clothing and equipment as required • relevant hazard control equipment and storage areas for hazardous goods as required • emergency and/or evacuation procedures for the potential range of hazards • Filtration equipment • Filter aids (such as lucilite, perlite and kieselguhr) and stabilising agents)

	<ul style="list-style-type: none"> • Workplace information systems and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Filtration process</p>	<p>The filtration process includes:</p> <ul style="list-style-type: none"> • receiving beer obtained from the maturation process • rough filtering of beer to remove yeast, protein, and other solids • stabilising and polishing filtration • transferring the filtered beer to bright beer tanks. <p>Depending on the enterprise and type of beer blending may also be done as part of the filtration process.</p>
<p>Materials used may include:</p>	<p>Filter aids (such as lucilite, perlite and kieselguhr), stabilising agents CO₂, deaerated water.</p>
<p>Services</p>	<p>May include:</p> <ul style="list-style-type: none"> • power • gas • water • steam • compressed air • refrigeration.
<p>Filtration equipment</p>	<p>Filtration equipment may include:</p> <ul style="list-style-type: none"> • powder hoppers • plant protection devices (such as explosion dampeners) • filter cloths • mesh • sieves • valves • pumps • tanks • cleaning equipment • equipment accessories • monitoring instruments • candle filters • plate and frame filters • horizontal tank, vertical leaf filters

	<ul style="list-style-type: none"> • horizontal pressure leaf filters • buffer tanks • filter aid and dosing tanks • trim chillers • trap filters • blending manifolds • valves (auto and control) • pumps • spent aid handling systems • transfer systems.
Filtration system controls	The filtration control system for operation and monitoring may be manual or involve the use of a process control system include and may also involve the use of production data such as performance control charts.
Control points refer to:	those key points in a work process, which much be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points.
Workplace information can include:	<ul style="list-style-type: none"> • Standard Operating Procedures (SOPs); specifications and production schedules • Information systems may be print or screen based.

Unit Sector(s)

Operations.

FDFOP2070A Operate a bright beer tank process

Modification History

New Unit.

Unit Descriptor

This unit covers the preparation and operation of bright beer tanks that receive the beer after filtration and before the beer is packaged.

Application of the Unit

This unit applies to operators and other personnel responsible for operating and monitoring bright beer tanks including transfers in and out, settling processes and removal of waste. The unit applies to large and small breweries and to a range of job roles in the brewing environment. It includes complying with quality and standard operating procedures. Where changeovers require maintenance related skills, the unit FDFOP2011A Conduct routine maintenance should be considered.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFOP2071A Identify key stages and beer production equipment in a brewery.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare bright beer tank process for operation	1.1 Beer availability is confirmed and available to meet production requirements 1.2 Availability of services is confirmed 1.3 Equipment is checked to confirm readiness for use
2 Operate and monitor bright beer tanks and equipment	2.1 The bright beer system is started up according to company procedures 2.2 Receive beer from filtration process 2.3 Control points are monitored to confirm performance is maintained within specification 2.4 System and sub-system outputs meet specification 2.5 Equipment is monitored to confirm operating condition 2.6 Temperature, pressure and carbon dioxide is monitored and controlled to confirm operating condition 2.7 Testing is undertaken to ensure yeast effectiveness and freedom from bacterial contamination 2.8 Transfer bright beer to filling and packaging stations 2.9 Production and other workplace information is recorded in the appropriate format
3 Shut down the system	3.1 The bright beer system is shut down according to company procedures 3.2 Equipment is cleaned and maintained to meet the cleaning schedule and procedural requirements 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to company procedures
4 Contribute to continuous improvement of the system	4.1 Quality or process outputs are assessed against specifications 4.2 Opportunities for improvement are identified and investigated 4.3 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures
5 Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify turbulence and undertake appropriate corrective action
- confirming equipment status including checking that hygiene and sanitation standards are met and that all safety guards are in place and equipment is operational
- monitor for bacteria and quality
- monitor oxygen and its affect upon quality
- monitor temperature and its affect upon quality
- use fobbing equipment correctly to control oxygen and beer quality
- operate vessel transfer equipment
- handle dangerous goods according to procedures
- monitor control points within the bright beer process
- operate bright beer related equipment
- identify common causes of variation and undertake corrective action required
- identify OHS hazards and implement appropriate action
- select, fit and use personal protective clothing and equipment
- shutdown filtration process and equipment and implement cleaning requirements associated with changeovers
- record production and other data according to procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- purpose and principles of bright beer procedures
- consequences of turbulence and the procedures to avoid it
- effect of bacteria, oxygen and temperature on quality
- fobbing and its affect upon quality
- procedures for handling dangerous goods
- quality characteristics to be achieved
- process specifications, procedures and operating parameters
- significance and methods of monitoring control points within the bright beer process
- equipment and instrumentation components, purpose and operation

- common causes of variation and corrective action required
- OHS hazards and controls
- procedures and responsibilities for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- cleaning and sanitation procedures
- sampling and testing procedures
- routine maintenance procedures

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify production requirements and schedules including type of beer being produced • confirm the supply of necessary materials and services to the bright beer tank process • confirm equipment status and condition • set up, start, operate and shut down the bright beer tank process • taking samples of beer and note equipment operation to identify out-of-specification results or non-compliance • monitor supply and flow of materials to and from the bright beer tank process • take corrective action in response to out-of-specification results or non-compliance • conduct product/beer-type changeovers • conducting routine maintenance.
<p>Context of and specific resources for assessment</p>	<p>Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to apply OHS principles and procedures when carrying out work given:</p> <ul style="list-style-type: none"> • OHS policy, system and procedures • standard operating procedures and related advice on specific safe work practices company policies and codes of practice relating to OHS • advice on relevant legislation and codes of practice relating to OHS • work area or process in which OHS procedures are to be implemented • personal protective clothing and equipment as required • relevant hazard control equipment

	<ul style="list-style-type: none"> • emergency and/or evacuation procedures for the potential range of hazards • consultative forums relating to OHS • storage areas for hazardous goods as required • manual handling equipment as required. <p>Other resources required for assessment include:</p> <ul style="list-style-type: none"> • Equipment used in the bright beer process • Information systems and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Services</p>	<p>May include:</p> <ul style="list-style-type: none"> • power • gas • water • steam • compressed air • refrigeration.
<p>Equipment used in the bright beer process may include:</p>	<p>Equipment used includes:</p> <ul style="list-style-type: none"> • pumps • fermentation vessels • recovery vessels • cleaning equipment • equipment accessories • valves • transfer systems • finished beer tanks (could include tanks for either filtered or unfiltered beer).
<p>Materials</p>	<p>Materials used include CO₂, yeast and nitrogen.</p>
<p>Bright beer tank system controls</p>	<p>The control system for operation and monitoring the bright beer tanks may be manual or involve the use of a process control system and may also involve the use of production data such as performance control charts.</p>
<p>Control points refer to:</p>	<p>those key points in a work process that much be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points.</p>
<p>Out of specification results or noncompliance</p>	<p>Out of specification results or noncompliance may include:</p> <ul style="list-style-type: none"> • oxygen • carbon dioxide • acidity • colour

	<ul style="list-style-type: none">• bacteria• chemicals• temperature.
Workplace information can include:	<ul style="list-style-type: none">• Standard Operating Procedures (SOPs); specifications and production schedules• Information systems may be print or screen based.

Unit Sector(s)

Operations.

FDFOP2071A Identify key stages and beer production equipment in a brewery

Modification History

New Unit.

Unit Descriptor

This unit covers the ability to identify beer production equipment and stages with a view to understanding the quality and production implications of any one work station on the whole brewing process.

Application of the Unit

This unit will typically apply to an employee in a larger brewery working at a single stage of the brewing process and who needs to understand their role in the wider brewing process. It can also be used as an induction unit in both large and small breweries.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisites for this competency unit.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify locations and equipment in the brewery for each stage of the brewing process workplace	1.1 Location for each beer production stage is identified 1.2 Major equipment and equipment function for each beer production stage is identified
2 Key information for each beer production stage is identified	2.1 Location or means of access to workplace information for each production stage is identified 2.2 Occupational health and safety policy and procedures appropriate for the enterprise and each production stage is identified 2.3 Supervisor or key resource person for each location is identified
3 Identify enterprise wide objectives, products and procedures	3.1 Enterprise objectives are explained 3.2 Products produced and other services provided by the enterprise are described 3.3 Key support functions are located and their contribution to product range and quality explained 3.4 Key responsibilities of own section or function are described 3.5 Work team roles and responsibilities are identified

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- Explain the stages in the brewing process and to match these to locations within the brewery or company
- Locate and explain key functions of the work site. This should include:
 - locating and accessing key people
 - locating specific work areas and outlining their functions, e.g. toilets, first aid rooms, stores, maintenance workshops, quality assurance laboratory
 - identifying how functions relate to each other
- Describing how each function or process contributes to enterprise objectives and product quality
- Identify and apply personal hygiene policies and procedures with regards to:
 - cleanliness
 - hair tying and nets
 - work clothes, uniforms – cleanliness and repairs
 - sickness
 - cuts and open wounds
 - eating and drinking in the workplace
- Identify own workplace, key equipment and site layout, roles and responsibilities
- Identify workplace information sources, updating and access requirements and procedures
- Apply recording requirements and procedures

Required knowledge includes:

Knowledge of:

- Enterprise objectives as they relate to beer production
- Workplace product and services range
- Key production sites including:
 - listing key sites by name
 - locating sites on a map or stating location
 - outlining their role and input to enterprise activities
 - naming key personnel and contact points
 - identifying means of sourcing contact details
- Key functions and processes within the enterprise
- How each function or process contributes to product and services quality
- Own workplace and site layout, roles and responsibilities
- Location of work areas and key equipment
- Identity, features and purpose of key equipment and work areas

- Key people's roles and responsibilities
- Reporting procedures and processes
- Workplace information sources, updating and access requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify work requirements • identify enterprise objectives and product range including: <ul style="list-style-type: none"> • identify beer products • recognise enterprise labels and logos • identify parent or associated enterprises • list services offered • identify brewing enterprise key production sites • locate and explain key functions of the work site • identify the role and responsibilities of own workplace • identify and apply personal hygiene policies and procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Personal protective clothing and equipment as required • Work procedures including advice on company practices, safe work practices, food safety, quality and environmental requirements • Instructions, information, specifications and schedules as required • Equipment, services and corresponding information as required • Products and materials as required • Internal and external customers and suppliers as required • Cleaning procedures, materials and equipment as required • Documentation and recording requirements and

	procedures.
Method of assessment	<p>The assessment of this unit may include observation of workplace practice supported by personal interviews within the workplace or in a simulated workplace environment. Assessment may also be supported by a range of alternative assessment methods which might include the following:</p> <ul style="list-style-type: none">• Written and/or oral questioning to assess knowledge and understanding• Project work• Completing workplace documentation• Written reports supported by practical assignments or tasks for individual assessment• Practical exercises including simulation, demonstrations and presentation.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Beer production stages</p>	<p>Includes:</p> <ul style="list-style-type: none"> • wort production • fermentation • maturation • filtration and clarification • bright beer production • beer filling • beer packaging <p>and may include if conducted on site:</p> <ul style="list-style-type: none"> • malting • hop extract • yeast propagation.
<p>Workplace information can include:</p>	<ul style="list-style-type: none"> • Notice boards, public address or paging systems, Standard Operating Procedures (SOPs) manuals, work notes, signs and notices (permanent and temporary) , telephone or contact details, emergency exits, routes and collection points, websites and email systems, workplace policies and procedures.
<p>Occupational health and safety</p>	<ul style="list-style-type: none"> • Organisational occupational health and safety • Legislative requirements of OH&S.
<p>Enterprise objectives may include:</p>	<ul style="list-style-type: none"> • Mission statements, goals, business, brands and brand objectives.
<p>Products may include:</p>	<ul style="list-style-type: none"> • Beer and beer related products, e.g. ale, stout, porter, light, carbohydrate modified and organic beer • Materials used in the brew house operations, e.g. barley, hops, yeast, water • Packaging raw materials, e.g. bottles, kegs, cans and stainless steel casks.
<p>Services</p>	<p>May include:</p> <ul style="list-style-type: none"> • gas • water • steam • compressed air • electricity

	<ul style="list-style-type: none"> hydraulics refrigeration.
Production sites may include:	<ul style="list-style-type: none"> Head office functions, production or processing plants, supplier facilities and consultancy services.
Key functions may include:	<ul style="list-style-type: none"> Brewing processes, bottling, packaging, warehouse and distribution, marketing, human resources (personnel, training and employee relations).
Roles and Responsibilities	<ul style="list-style-type: none"> Organisational requirements for own work Role within work team Role of work team participants.
Workplace policies, procedures and systems may include:	<ul style="list-style-type: none"> Those relating to safety, quality assurance, equal opportunities, sexual harassment, customer services, awards, pay.
Equipment and materials may vary from:	<ul style="list-style-type: none"> Those used in the brew house operations which includes wort production, fermentation, maturation, filtration and bright beer tank processes.

Unit Sector(s)

Operations.

FDFOP2072A Operate a beer filling process

Modification History

New Unit.

Unit Descriptor

This unit covers the preparing, operating, monitoring and shutting down of a beer filling process for kegs, bottles and cans. It includes working within quality requirements and standard operating procedures.

Application of the Unit

This unit applies to operators and other personnel responsible for the filling of kegs, bottles and cans with beer products in both large and small breweries. It includes complying with quality and standard operating procedures and conducting of routine changeovers. Where changeovers require maintenance related skills, the unit FDFOP2011A Conduct routine maintenance should be considered.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisites for this competency unit.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the filler process for operation	1.1 Filling requirements are checked 1.2 Availability of required materials is confirmed 1.3 Availability of services is confirmed 1.4 Pre-operational checks of equipment are conducted including checking that hygiene and sanitation standards are met and all safety guards are in place 1.5 The beer filling process is set to meet production requirements
2 Operate and monitor the beverage filling process	2.1 The filler process is started up according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Beer containers (cans, kegs, bottles) are checked against production order and container specifications 2.4 Equipment is monitored to confirm operating condition 2.5 Stock flow to and from filler process is maintained within production requirements 2.6 Out-of-specification product, process, equipment performance is identified, rectified and/or reported 2.7 Size and product changeovers are completed in accordance with batch instructions and standard operating procedures
3 Shut down filler	3.1 Filler process is shut down according to company procedures 3.2 Equipment is cleaned and maintained to meet cleaning schedules and procedural requirements 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to company procedures
4 Contribute to continuous improvement of the system	4.1 Quality or process outputs are assessed against specifications 4.2 Opportunities for improvement are identified and investigated 4.3 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures
5 Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information to identify production requirements for the beverage filling process
- select, fit and use personal protective clothing and equipment
- identify keg, can and bottle sizes relevant to beer filling operation
- identify types of beer products relevant to beer filling operation
- interpret the production schedule
- confirm supply of necessary materials and services to the filler
- confirm equipment status and condition
- monitor the beverage filling process and equipment operation to identify out-of-specification results or non-compliance. This may include:
 - flow rates/quantity
 - broken bottles
 - faulty kegs or cans
 - contaminated product
 - materials faults
 - equipment faults
 - services faults
- monitor supply and flow of materials to and from the filler
- safely access, isolate and clear jams in filling machine
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- replenish the filling process with raw materials, ingredients and packaging consumables
- verify that output meets specifications
- implement size and product changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down beverage filling equipment in response to emergency situation
- shut down beverage filling equipment in response to routine shutdown requirements
- prepare beverage filling equipment for cleaning
- maintain work area to meet housekeeping standards
- record workplace information
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- purpose and basic principles of the beverage filling process
- relationship between the filling process, bright beer and other brew house operations as well as other packaging operations
- stages which occur during filling and packaging
- requirements of the filling process
- types of fillers
- aseptic requirements for preparing containers
- microbiological considerations in filling and packaging beer
- effect of filling on the end product
- quality characteristics to be achieved
- set up and start up the process. This can involve the use of process control systems, adjusting the filler to product specifications
- process specifications, procedures and operating parameters
- significance and methods of monitoring control points within the beverage filling process
- equipment and instrumentation components, purpose and operation
- services used in the filling process
- common causes of variation and corrective action required
- OHS hazards and controls
- procedures and responsibility for reporting problems
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures including down time
- environmental issues and controls relevant to the filling and sealing process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- aseptic filling and sealing requirements where relevant
- sampling and testing procedures where relevant
- cleaning and sanitation procedures where relevant
- maintain work area to meet housekeeping standards

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify requirements for the beer filling process • interpret the production schedule to determine the type of container required • confirm the supply of necessary materials and services and confirm equipment status and condition • set up and start up the process. • monitor the beer filling process and equipment operation and take corrective action in response to out-of-specification results or non-compliance • conduct changeovers for different product or containers • prepare equipment for cleaning • maintain workplace records • conduct routine maintenance • calculate materials required
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety and environmental requirements • production schedule, batch instructions • material data safety sheets where appropriate • specifications, control points and filling parameters • beer filling equipment • services as required • stock required for the beer filling process • stock flow system • related work areas and communication system • routine preventative maintenance schedule as

	<p>required</p> <ul style="list-style-type: none"> • cleaning schedule as required • sampling and testing schedules as required • documentation and recording requirements and procedures
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Beer	Refers to all styles of brewed alcoholic beverages.
Materials used may include:	Bottles, cans, ends (for cans), crowns, carbon dioxide and kegs.
Services may include:	Power, gas, water, steam, hydraulics and air.
Beverage filling equipment may include:	<p>Filling equipment may include:</p> <ul style="list-style-type: none"> • fillers • pumps • valves • container cleaners • conveyors • handlers and feeding systems for crown seals and can ends • seamers • level detection devices • crowners • cleaners/rinsers • empty container inspectors • coders • clean in place (CIP) equipment. <p>Filling equipment and operation and monitoring functions may be directly controlled or involve the use of a process control system</p>
Control points	<ul style="list-style-type: none"> • Refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points • Monitoring the process may involve the use of production data such as performance control charts • Process operation and monitoring functions may be manual or involve the use of a process control system.
Equipment is monitored	To confirm equipment status involves ensuring that hygiene and sanitation standards are met, all safety

	guards are in place and that equipment is operational.
Workplace information may include:	<ul style="list-style-type: none">• Standard Operating Procedures (SOPs); specifications and production schedules• Information systems may be print or screen based.

Unit Sector(s)

Operations.

FDFOP2073A Operate a beer packaging process

Modification History

New Unit.

Unit Descriptor

This is a specialist unit that has been developed for the brewing sector. It involves preparing, operating, monitoring and shutting down a packing process including packing processes for cartons, boxes, pallets and wrap-around and shrink wrap packers.

Application of the Unit

This unit applies to operators and other personnel responsible for the packing beer into cartons, boxes and pallets in both large and small breweries. It includes complying with quality and standard operating procedures and conducting of routine changeovers. The unit also applies to the use of non air tight wrap-around and shrink wrap packing. Where sealed, airtight film/cello packing is required the unit FDFOP2022A Operate a high speed wrapping process should be selected. Where changeovers require maintenance related skills, the unit FDFOP2011A Conduct routine maintenance should be considered.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the filler process for operation	1.1 Packing requirements are checked 1.2 Availability of required materials is confirmed 1.3 Availability of services is confirmed 1.4 Pre-operational checks of packing equipment are conducted including checking that hygiene and sanitation standards are met and all safety guards are in place 1.5 The packaging process is set to meet production requirements
2 Operate and monitor the packaging process	2.1 The packing process is started up according to company specifications 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Packages meet specifications 2.4 Equipment is monitored to confirm operating condition 2.5 Stock flow to and from packer process is maintained within production requirements 2.6 Out-of-specification product, process, equipment performance is identified, rectified and/or reported 2.7 Size/product changeover is completed in accordance with batch instructions and standard operating procedures
3 Shut down packaging process	3.1 Packer process is shut down according to company procedures 3.2 Equipment is cleaned and maintained to meet cleaning schedules and procedural requirements 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to company procedures
4 Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- access workplace information to identify production requirements for the packer process
- select, fit and use personal protective clothing and equipment
- interpret the production schedule
- confirm supply of necessary materials and services to the packer
- confirm packing equipment status and condition
- monitor the packing process and equipment operation to identify out-of-specification results or noncompliance
- This may include:
 - glue seals on cartons
 - incorrect shape
 - materials faults (eg. Printing)
 - incomplete shrink wrapping (eg. Too loose/printing unaligned)
 - equipment faults
 - services faults
- monitor supply and flow of materials to and from the packer
- take corrective action in response to out-of-specification results or non-compliance
- safely access, isolate and clear jams in packaging equipment
- report and/or record corrective action as required
- replenish the packing process with raw materials, ingredients and packaging consumables
- verify that output meets specifications
- implement size/product changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down packing equipment in response to emergency situation
- shut down packing equipment in response to routine shutdown requirements
- prepare packing equipment for cleaning
- maintain work area to meet housekeeping standards
- record workplace information
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Knowledge of:

- purpose and basic principles of the packing process
- relationship between the packing process, fillers, labellers, other packaging equipment and palletisers including stages which occur during filling and packaging
- stages which occur during filling and packaging
- requirements of the packaging process
- types of packers
- microbiological considerations in filling and packaging beer
- effect of packaging on the end product
- quality characteristics to be achieved
- set up and start up the process. This can involve the use of process control systems, adjusting
- the packers to product specifications
- process specifications, procedures and operating parameters
- significance and methods of monitoring control points within the packaging process
- equipment and instrumentation components, purpose and operation
- services used in the packing process
- common causes of variation and corrective action required
- OHS hazards and controls
- procedures and responsibility for reporting problems
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures including down time
- sampling and testing procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify requirements for the packing process • interpret the production schedule to determine the type of packing required • confirm the supply of necessary materials and services to the packing process • confirm equipment status and condition • set up and start up the process • monitor the packing process and equipment operation and take corrective action in response to out-of-specification results or non-compliance • reporting and/or recording corrective action as required • conducting changeovers for different product, product size or packing • shut down equipment • conduct routine maintenance • calculate materials required.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety and environmental requirements • production schedule, batch instructions • material data safety sheets where appropriate • specifications, control points and filling parameters • beer packaging equipment • services as required • stock required for the beer packaging process • stock flow system

	<ul style="list-style-type: none"> • related work areas and communication system • relevant OHS clothing and equipment • routine preventative maintenance schedule as required • cleaning schedule as required • sampling and testing schedules as required • documentation and recording requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Beer	Refers to all styles of brewed alcoholic beverages.
Services may include:	Power, gas, water, steam, hydraulics and air.
Packing equipment may include	<p>Packing equipment may vary according to type of container and product and may include:</p> <ul style="list-style-type: none"> • wrap-around packer machine • basket packer machinery • shrink wrap machinery • glue guns • conveyors. <p>Packing equipment and operation and monitoring functions may be directly controlled or involve the use of a process control system.</p>
Control points	<ul style="list-style-type: none"> • Refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points • Monitoring the process may involve the use of production data such as performance control charts • Process operation and monitoring functions may be manual or involve the use of a process control system.
Equipment is monitored	To confirm equipment status involves ensuring that hygiene and sanitation standards are met, all safety guards are in place and that equipment is operational.
Workplace information may include:	<ul style="list-style-type: none"> • Standard Operating Procedures (SOPs); specifications and production schedules • Information systems may be print or screen based.

Unit Sector(s)

Operations.

FDFOP2074A Prepare and monitor beer yeast propagation processes

Modification History

New Unit

Unit Descriptor

This specialist unit has been developed for the brewing industry. It covers the skills and knowledge required to prepare and monitor yeast cultures with respect to yeast propagation production processes.

Application of the Unit

This unit applies to staff of brewery enterprises who propagate yeast cultures used in beer production.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for propagation	1.1 Propagation requirements are identified and confirmed 1.2 Yeast cultures are prepared for use 1.3 Product and materials are confirmed and available to meet propagation requirements 1.4 Product is prepared to meet specified propagation requirements 1.5 Services are confirmed as available and ready for operation
2 Prepare equipment for culture preparation	2.1 Cleaning and sterilising equipment is checked to confirm readiness for use 2.2 Propagation equipment is selected, cleaned and sterilised according to workplace procedures 2.3 Transfer equipment is selected, cleaned and sterilised as required
3 Maintain and monitor the propagation process	3.1 Transfer operations are conducted to meet propagation requirements 3.2 The culture propagation process is conducted according to workplace procedures 3.3 Scale-up additions are made according to workplace procedures 3.4 Control points are monitored to confirm performance is maintained within specification 3.5 Equipment is monitored to confirm operating condition 3.6 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
4 Complete propagation activities	4.1 The propagation process is completed according to workplace procedures 4.2 Equipment is dismantled and prepared for cleaning 4.2 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 4.3 Work is conducted in accordance with workplace environmental guidelines
5 Record information	5.1 Workplace information recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular workplace.

Ability to:

- Access workplace information to identify culture propagation requirements
- Select, fit and use personal protective clothing and/or equipment
- Confirm supply of necessary product, materials and services
- Liaise with other work areas
- Prepare product and materials as required. This may include:
 - culture yeast slopes
 - oxygenated wort
 - yeast nutrients
 - oxygen supply and sterilisation
 - wort heating
 - wort sterilisation
- Confirm equipment status and condition. This may include checking:
 - cleaning and/or sterilisation requirements have been met
 - position and alignment of valves
 - integrity of door seals and small vessel tubing and condition of gas (oxy) filters
- Start up the process
- Monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve sampling and checking:
 - temperature (wort)
 - wort gravity
 - wort oxygenation levels
 - yeast cell counts
 - yeast viability
- Monitor supply and flow of product and materials to and from the process
- Take corrective action in response to out-of-specification results or non-compliance
- Report and/or record corrective action as required
- Conduct product and batch changeovers
- Follow confined space entry policies and procedures when required
- Sort, collect, treat, recycle or dispose of waste
- Shut down equipment in response to an emergency situation
- Shut down equipment in response to routine shutdown requirements
- Record workplace information
- Maintain work area to meet housekeeping standards

- Prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for sanitation
- Identify, rectify and/or report environmental non-compliance
- Carry out routine maintenance
- Use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- Work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular workplace.

Knowledge of:

- Purpose and principles of propagating yeast cultures
- Relationship of propagation to alcoholic fermentation
- Stages and changes which occur during culture propagation
- Effect of process stages on end product
- Quality characteristics and uses of yeast cultures
- Product and materials preparation requirements and effect of variation on the process
- Main methods used in propagating yeast for beer production
- The fermentation reaction for yeast cultures
- Techniques that may be used to manipulate the propagation process and end product characteristics, including:
 - temperature
 - yeast strain
 - wort stream
 - wort gravity
 - additions (nutrients)
 - oxygen
- Process specifications, procedures and operating parameters
- Equipment and instrumentation components, purpose and operation
- Basic operating principles of process control systems where relevant
- Services used
- Significance and method of monitoring control points within the process
- Common causes of variation and corrective action required
- Occupational health and safety (OHS) hazards and controls, specifically confined space entry
- Lock-out and tag-out procedures
- Procedures and responsibility for reporting problems
- Environmental issues and controls
- Shutdown and cleaning requirements associated with changeovers and types of shutdowns
- Waste handling requirements and procedures
- Recording requirements and procedures

- Routine maintenance procedures
- Aseptic techniques

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment and follow other specified OHS procedures • check and prepare product and any additions, including check of quality of yeast cultures before use • check and confirm readiness of equipment before operation • start propagation process correctly • monitor propagation process control points for performance against specifications • take appropriate corrective action for out-of-specification process and equipment performance • collect waste and store, treat or dispose of appropriately • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

	<ul style="list-style-type: none">documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator.
<p>Equipment</p>	<p>Equipment may include:</p> <ul style="list-style-type: none"> • propagation vessels • storage vessels • sterile filtration equipment for gases • hoses and fittings and tubing • pumps • dosing equipment • mixers/shakers • testing equipment (e.g. microscope with cell counter, density meter).
<p>Product and materials</p>	<p>Product and materials may include:</p> <ul style="list-style-type: none"> • culture yeast slopes • oxygenated wort • yeast nutrients • oxygen supply • sterilisation materials.
<p>Services</p>	<p>Services may include:</p> <ul style="list-style-type: none"> • electricity • water • steam

	<ul style="list-style-type: none"> • compressed air • oxygen.
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the calibration status of measuring instrumentation.
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> • the use of production data • sampling • checking temperature, gravity, cell counts, viability, oxygen levels • visual inspection.
Process set up, operation and monitoring functions	<p>Process set up, operation and monitoring functions may be manual or involve the use of a process control system.</p>
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • food safety (critical) • quality and regulatory control points • inspection points.
Information systems	<p>Information systems may be print or screen based.</p>
Work hazards	<p>Work may involve exposure to chemical, dangerous or hazardous substances.</p>

Unit Sector(s)

Operations.

FDFOP3001A Control contaminants and allergens in the workplace

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to examine the risk of contaminants and allergens in a food production workplace and assess and implement control measures designed to manage risks.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a food production or packaging workplace. This unit is appropriate where the operator or supervisor requires a detailed understanding of contaminants and allergens in the workplace and the effect they have on product safety and quality in order to ensure work practices comply with safety and operational work standards. This unit is especially appropriate where work is conducted in an environment where contaminants or allergens present a significant risk to the quality of product and the safety of workers or consumers.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS2001A	Implement the food safety program and procedures

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess risk of physical contamination	1.1.Types and sources of physical contamination in the workplace are identified 1.2.Risks to operations, product and consumer are identified 1.3.Control measures to eliminate or reduce risks of physical contamination are identified 1.4.Workplace procedures and practices are assessed to determine level of risk for physical contaminants and opportunities for improvement identified
2. Assess risk of chemical contamination	2.1.Types and sources of chemical contamination in the workplace are identified 2.2.Risks to operations, product and consumer are identified 2.3.Control measures to eliminate or reduce risks of chemical contamination are identified 2.4.Workplace procedures and practices are assessed to determine level of risk for chemical contaminants and opportunities for improvement identified
3. Assess risk of microbiological contamination	3.1.Types and sources of microbiological contamination in the workplace are identified 3.2.Risks to operations, product and consumer are identified 3.3.Control measures to eliminate or reduce risks of microbiological contamination are identified 3.4.Workplace procedures and practices are assessed to determine level of risk for microbiological contaminants and opportunities for improvement identified
4. Assess risk of allergens in the workplace	4.1.Types and sources of allergens are identified 4.2.Risks to operations, product and consumer are identified 4.3.Control measures to eliminate or reduce risks of allergens are identified 4.4.Workplace procedures and practices are assessed to determine level of risk for allergens and opportunities for improvement identified
5. Implement control measures to manage contaminants and allergens	5.1.Control measures are implemented as part of work operations 5.2.Emergency procedures and conditions for

ELEMENT	PERFORMANCE CRITERIA
	implementation are identified 5.3. Reporting and documentation associated with controls is identified and undertaken as required 5.4. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify the types of physical, chemical and microbiological contaminants and allergens that present a risk in the workplace
- identify sources of risks
- examine control measures
- describe the appropriate monitoring requirements for each risk, including the method or procedure to be followed, the frequency and timing, the person responsible, and the information to be recorded (procedures to be followed would typically be specified in the form of a standard operating procedure (SOP) or work instruction)
- describe corrective action requirements in the event that acceptable limits or requirements of controls are not met
- develop or review documentation relating to the food safety program, such as process flow diagrams, hazard analysis charts and tables, support program requirements, data analysis reports, corrective action reports and verification reports
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- communicate food safety responsibilities within level of responsibility
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the purpose and intent of food safety legislation and control measures
- roles and responsibilities for development and maintenance of the control measures
- food processing methods used in the workplace or work area and the risks of contamination
- sources of technical expertise on contaminants and allergens
- the role of control measures in the food safety program
- documentation and recording requirements to support communication and monitoring of the food safety program, including procedures for maintaining and updating relevant documents, such as operating procedures
- main types of food safety contamination likely to occur given the type of product and processing methods used
- acceptable control methods for the hazards identified and required corrective action when control requirements are not met

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• validation and verification processes and techniques and responsibilities |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify potential physical, chemical and microbiological contaminants in the workplace and their likely sources • identify risks associated with these contaminants and the control measures to manage risks • describe allergens and control measures that relate to workplace • identify workplace procedures to control risks and assess effectiveness in practice • implement workplace control measures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace food safety program documentation • advice on quality and food safety legislation • procedures for implementing control measures and other advice on food safety requirements • other recording requirements.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Physical contaminants

Physical contaminants include all foreign objects that are caused by or come from:

- the raw material source
- processing systems
- processing equipment
- housekeeping standards

Sources of contamination include:

- employees (e.g. hair, bandaids, glasses, jewellery and coins or other contaminants, such as dirt, pests, food and raw materials)
- maintenance and cleaning procedures (e.g. metal shavings, grease from equipment, nuts and bolts, dirty equipment from previous products and glass breakages)
- packaging materials (e.g. ink, dye, staples, paper, cardboard and plastic)
- pests (e.g. evidence of rodents gnawing on packages, rodent hair, droppings and debris)
- incorrectly labelled or packaged raw materials
- industrial sabotage (e.g. tampering anywhere through the production process)
- accumulation of dusts from unclean environments

Control measures for physical contaminants

Control measures to reduce contamination may include:

- use of personal protective equipment
- clothing standards (e.g. enclosed hair and no jewellery)
- metal detectors
- rulings against glass in production or packaging areas
- covering of raw materials and equipment
- maintenance, cleaning and housekeeping

RANGE STATEMENT	
	<p>programs</p> <ul style="list-style-type: none"> • inspection schedules • reporting requirements and procedures • emergency procedures
Chemical contaminants	<p>Chemical contamination includes the introduction of unwanted substances or an unplanned reaction between different products.</p> <p>Sources of chemical contamination include:</p> <ul style="list-style-type: none"> • unwanted chemicals remaining on food preparation surfaces (e.g. cleaning chemicals) • chemicals remaining in food material after processing • too much or the wrong chemical added during manufacture • insecticide, pesticides, herbicides and antibiotics that build up during the growth cycle of the food source
Control measures for chemical contaminants	<p>Control measures for chemical contaminants include safe handling of chemical contaminants, such as:</p> <ul style="list-style-type: none"> • storing chemicals away from food production areas • using correct containers for storing and dispensing chemicals • correctly labelling chemicals in containers • calculating and applying correct quantities • ensuring chemical record sheets are filled in correctly
Microbiological contaminants	<p>Microbiological contaminants include micro-organisms that in food that poison or spoil it.</p> <p>Types of micro-organisms associated with microbiological risks include:</p> <ul style="list-style-type: none"> • fungi • yeasts • moulds • viruses • bacteria
Control measures for biological	Control measures for biological contaminants

RANGE STATEMENT	
contaminants	include: <ul style="list-style-type: none"> • temperature and climate controls • personal hygiene standards • storage and processing conditions • chemical controls • housekeeping standards • pest controls
Allergens	Allergens include: <ul style="list-style-type: none"> • food substances, such as nuts, milk products • pollen and grain

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP3002A Set up a production or packaging line for operation

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up multiple production or packaging processes and/or conduct multiple process changeovers for operation by others.
------------------------	--

Application of the Unit

Application of the unit	This unit is appropriate where setup and/or changeovers are not carried out by the equipment or process operator. This unit has application in a food processing production environment. It typically targets the production worker responsible for machine setup.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for line setup	1.1. Materials are confirmed and available to meet production requirements 1.2. Equipment and related accessories are confirmed, available and fit for use to meet production requirements 1.3. Tools and equipment required for line setup are available, operational and fit for use 1.4. Processing parameters and settings are identified to meet production or packaging requirements
2. Set up the line for operation	2.1. Cleaning and maintenance requirements and status are identified and confirmed 2.2. Equipment is inspected to confirm condition 2.3. Machine settings are selected or adjusted as required to meet safety and production requirements 2.4. Processing or packaging parameters are entered as required to meet production requirements 2.5. Equipment performance is checked and adjusted as required 2.6. Pre-start checks are carried out as required by workplace requirements 2.7. Line setup is completed to match production or packaging schedule and operating requirements 2.8. The line is ready and safe to operate and any maintenance requirements are reported according to workplace reporting requirements 2.9. Work is conducted in accordance with workplace environmental guidelines 2.10. Relevant personnel are notified of setup completion

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access production/packing schedule and related information to identify line setup/changeover requirements, such as checking product sequencing and compatibility, confirming that the required cleaning and/or sanitation has occurred and required packaging components and consumables are available as appropriate
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary equipment and related attachments, materials and services for production
- confirm supply of necessary equipment and services to carry out setup operations
- set and/or adjust equipment to meet production/packaging requirements, including selecting the required parameters or equipment settings, and changing processing set points as required
- position safety guards and cancel isolation/lockouts ready for operation
- confirm that sensors and related feedback instruments are correctly positioned and operational
- operate equipment to confirm equipment setup and make final adjustments as required
- time setup activities to meet production requirements
- advise affected work areas/personnel of completion of setup
- maintain work area to meet housekeeping standards
- load and/or position materials/ingredients/product and/or packaging consumables according to enterprise procedures
- use the control panel/system to set and adjust equipment components according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic operating principles of equipment and related accessories, including equipment adjustment points, range and location/alignment requirements of sensors and related feedback instruments, and status and purpose of guards
- operating capacities of equipment used in the work area, such as different types of

REQUIRED SKILLS AND KNOWLEDGE

- equipment and/or components as required by processing operations
- nature of setup/changeover requirements, such as product compatibility and related cleaning requirements, impact of variation in materials or product on setup requirements, equipment and/or attachment changeovers related to given products
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- pre-start checks required by setup/changeover
- related processes and personnel dependent on line setup, and communication responsibilities
- isolation, lock out and tag out procedures and responsibilities
- occupational health and safety (OHS) hazards and controls
- procedures and responsibility for reporting equipment performance information
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance requirements and procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for production to determine cleaning, maintenance and operation readiness • determine production parameters and requirements • set up line according to production requirements • take corrective action in response to typical faults and inconsistencies • complete workplace records and communicate line status with other personnel as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • production/packaging schedule and related advice on setup/changeover requirements • cleaning records/clearance as required • information on equipment capacity and operating parameters • process/packaging equipment and related accessories and services • materials/consumables required by the process • hand tools as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2011A Conduct routine maintenance

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• FDFOP2030A Operate a process control interface.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • standard forms and reports
Equipment adjustment	<p>Equipment adjustment may include:</p> <ul style="list-style-type: none"> • limited use of hand tools, such as Allen keys and screwdrivers, within level of responsibility
Confirming cleaning requirements and status	<p>Confirming cleaning requirements and status may involve:</p> <ul style="list-style-type: none"> • accessing cleaning records

Unit Sector(s)

Unit sector	Operational
-------------	-------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFOP3003A Operate interrelated processes in a production system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate and adjust interrelated processes in a production system.
------------------------	---

Application of the Unit

<p>Application of the unit</p>	<p>This unit applies to senior operators who are applying skills and knowledge of the operational requirements of the production system for the industry in which it is applied.</p> <p>While the unit does not have specific prerequisites, it is not an entry level unit covering skills and knowledge required for operation of individual items of equipment and individual processes. The unit instead provides the skills and knowledge required for the coordination of multiple processes in a production system at an operational level. Where sector-specific senior operator technical skills are required, a relevant sector specific specialist elective unit should be selected.</p> <p>A system typically involves a series of interrelated processes that must be coordinated and concurrently operated to produce the required outcome. Individual processes may be directly operated, automated and/or operated by others. System operation requires higher level planning and problem solving skills applied to the series of processes than is required when operating an individual unit of equipment or multiple pieces of the same equipment.</p> <p>This unit does not supply skills related to the implementation of lean and competitive manufacturing related skills to improve system performance. Where these skills are required the relevant Manufacturing Skills Australia (MSA) competitive manufacturing elective units should be selected.</p>
---------------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the production system for operation	1.1. Equipment, materials and services are confirmed and available to meet production requirements 1.2. Cleaning requirements and equipment status are identified and confirmed 1.3. Machine settings are selected or adjusted as required to meet safety and production requirements 1.4. Processing/operating parameters are entered as required to meet production requirements 1.5. Materials, ingredients and/or product are loaded or positioned as required to meet production requirements 1.6. Pre-start checks are carried out as required by workplace requirements 1.7. Equipment performance is checked and adjusted as required 1.8. Equipment is ready and safe to operate
2. Operate and monitor the production system	2.1. The system is started up and operated according to company procedures 2.2. System equipment components are monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The production system is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines
3. Hand over production system operation	3.1. Workplace records are maintained according to workplace recording requirements 3.2. Handover is carried out according to workplace procedures 3.3. Process operators are aware of system and related equipment status at completion of handover
4. Shut down the	4.1. The appropriate shutdown procedure is identified

ELEMENT	PERFORMANCE CRITERIA
production system	4.2.The system is shut down according to workplace procedures 4.3.Maintenance requirements are identified and reported
5. Contribute to continuous improvement of the production system	5.1.System performance is reviewed against output plan/targets 5.2.Opportunities for system improvement are identified and investigated 5.3.Proposals for improvement are developed and implemented within company planning arrangements, authority levels and according to company procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access production schedule and related information to identify system output and operating requirements, such as planning daily production schedules and/or modifying plans to respond to operating conditions and customer requirements
- liaise with relevant work areas to confirm and/or secure necessary materials, services, equipment and labour to meet production requirements
- confirm supply of necessary equipment and related attachments, materials and services
- select, fit and use personal protective clothing and/or equipment
- set and/or adjust equipment to meet process output requirements, including inspecting equipment condition to identify any signs of wear, confirming selection of appropriate settings and/or related parameters, ensuring that isolation or lock outs are cancelled as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational (checks may be done by the system operator or involve observing/supporting others setting and adjusting equipment and conducting pre-start checks)
- load and/or position materials, ingredients and/or product as required
- operate and monitor the production system, such as use of a process control system and/or observing/supporting others to follow correct operating procedures
- monitor materials flow and work-in-progress through the system
- confirm that the system operates within specified parameters and inspection/control points are monitored
- determine responses to out-of-specification results or non-conformance within level of responsibility
- monitor operating efficiencies of the system, including recognition of signs and symptoms of faulty equipment and early warning signs of other potential problems
- investigate, resolve and/or report problems and faults
- plan scheduled events to minimise disruption to production
- conduct/coordinate product or batch changeovers
- conduct/coordinate shift handovers
- review and maintain procedures to support system improvements
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the production system, including the system process flow, the interrelationships of each process to identify the impact of variation on related processes, and optimisation options
- basic operating principles of equipment and related accessories used by the system, including equipment adjustment points, status and purpose of guards, and range and location/alignment requirements of sensors and related feedback instruments
- operating capacities of equipment used in the system, such as different types of equipment and/or components as required by processing/packaging operations
- related systems and responsibilities for interaction, such as related production systems, services supply, packaging/warehousing, maintenance, laboratory/quality assurance and planning and scheduling
- product characteristics and common types of variation in materials and/or ingredients used, including the effect of variation on each stage of the system and scope to adjust or correct
- typical production related problems, including equipment faults, common causes and warning signs, incorrect or poor supply of materials, incorrect settings and poor operator control
- relevant procedures, specifications and operating parameters for the system and the individual processes
- isolation, lock out and tag out procedures and responsibilities
- hazards, risks, controls and methods for monitoring processes within the system, including occupational health and safety (OHS), food safety, quality and environmental hazards and risks
- workplace system and approach to equipment maintenance
- process improvement procedures and related consultative arrangements
- troubleshooting procedures and problem solving techniques
- communication responsibilities to inform related work areas/support functions and other shifts of operational status and production issues
- procedures and responsibility for reporting production and performance information

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on production system components • confirm machine setup is ready to achieve production requirements • correctly use required personal protective equipment • start, operate, monitor and adjust process equipment throughout the system to achieve required quality outcomes • identify system problems and take corrective action • conduct operational handovers • shut down system • identify and investigate opportunities for operational improvements within areas of responsibility • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • production schedule and related advice on system requirements • information on equipment capacity and operating parameters • production system equipment and related accessories and services • materials/consumables required by the process • communication and recording systems and

EVIDENCE GUIDE	
	procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2030A Operate a process control interface • FDFPPL3003A Support and mentor individuals and groups.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • performance records and reports
Systems	<p>A system typically involves:</p> <ul style="list-style-type: none"> • a series of interrelated processes that must be coordinated and concurrently operated to produce the required outcome
System operation	<p>System operation may involve:</p> <ul style="list-style-type: none"> • coordination of operators of system components
Handovers	<p>Handovers may be done:</p> <ul style="list-style-type: none"> • in person or via recording/communication

RANGE STATEMENT	
	systems according to workplace arrangements
Operation and monitoring of equipment and system processes	Operation and monitoring of equipment and system processes typically requires: <ul style="list-style-type: none"> the use of control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Confirming cleaning requirements and status	Confirming cleaning requirements and status may involve: <ul style="list-style-type: none"> accessing cleaning records

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP3004A Operate interrelated processes in a packaging system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate and adjust interrelated processes in a packaging system.
------------------------	--

Application of the Unit

<p>Application of the unit</p>	<p>This unit applies to senior operators who are applying skills and knowledge of the operational requirements of the packaging system for the industry in which it is applied.</p> <p>While the unit does not have specific prerequisites, it is not an entry level unit covering skills and knowledge required for operation of individual items of equipment and individual processes. The unit instead provides the skill and knowledge required for the coordination of multiple processes in a packaging system at an operational level. Where sector-specific senior operator technical skills are required, a relevant sector specific specialist elective unit should be selected.</p> <p>The system will typically involve a series of interrelated processes that must be coordinated and concurrently operated to produce the required outcome. Individual processes may be directly operated, automated and/or operated by others. System operation requires higher level planning and problem solving skills applied to the series of processes than is required when operating an individual unit of equipment or multiple pieces of the same equipment.</p> <p>This unit does not supply skills related to the implementation of lean and competitive manufacturing related skills to improve system performance. Where these skills are required the relevant Manufacturing Skills Australia (MSA) competitive manufacturing elective units should be selected.</p>
---------------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the packaging system for operation	1.1. Equipment, materials and services are confirmed and available to meet packaging requirements 1.2. Cleaning requirements and equipment status is identified and confirmed 1.3. Machine settings are selected or adjusted as required to meet safety and production requirements 1.4. Operating parameters are entered as required to meet production requirements 1.5. Product and/or packaging components and consumables are loaded or positioned as required to meet packaging requirements 1.6. Pre-start checks are carried out as required by workplace requirements 1.7. Equipment performance is checked and adjusted as required 1.8. Equipment is ready and safe to operate
2. Operate and monitor the packaging system	2.1. The system is started up and operated according to company procedures 2.2. System equipment components are monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The system is monitored to confirm that packaging specifications are met 2.5. Out-of-specification product/packaging outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines
3. Hand over packaging system operation	3.1. Workplace records are maintained according to workplace recording requirements 3.2. Handover is carried out according to workplace procedures 3.3. Process operators are aware of system and related equipment status at completion of handover
4. Shut down the	4.1. The appropriate shutdown procedure is identified

ELEMENT	PERFORMANCE CRITERIA
packaging system	4.2. The system is shut down according to workplace procedures 4.3. Maintenance requirements are identified and reported
5. Contribute to continuous improvement of the system	5.1. System performance is reviewed against output plan/targets 5.2. Opportunities for system improvement are identified and investigated 5.3. Proposals for improvement are developed and implemented within company planning arrangements, authority levels and according to company procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access production/packaging schedule and related information to identify packaging output and operating requirements, such as establishing daily packaging priorities and/or modifying plans to respond to customer requirements
- liaise with relevant work areas to confirm and/or secure necessary materials, services, equipment and labour to meet production requirements
- confirm supply of necessary equipment and related attachments, materials and services
- select, fit and use personal protective clothing and/or equipment
- set and/or adjust equipment to meet packaging requirements, such as inspecting equipment condition to identify any signs of wear, confirming selection of appropriate settings and/or related parameters, ensuring that isolation or lock outs are cancelled as required, confirming that equipment is clean and correctly configured for packaging requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational (checks may be done by the system operator or involve observing/supporting others setting and adjusting equipment and conducting pre-start checks)
- load and/or position product, packaging components and consumables as required
- operate and monitor the packaging system, such as use of a process control system and/or observing/supporting others to follow correct operating procedures
- monitor materials flow and work-in-progress to and from the packaging system
- confirm that the packaging system operates within specified parameters and inspection/control points are monitored
- determine responses to out-of-specification packaging or non-conformance within level of responsibility
- monitor operating efficiencies of the system, including recognition of signs and symptoms of faulty equipment and early warning signs of other potential problems
- investigate, resolve and/or report problems and faults
- plan scheduled events to minimise disruption to production
- conduct/coordinate product/packaging changeovers
- conduct/coordinate shift handovers
- review and maintain procedures to support system improvements
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the packaging system, including the process flow and the interrelationships of each previous processes that can affect packaging outcomes, packaging technology, and packaging equipment components
- basic operating principles of equipment and related accessories used by the system, including equipment adjustment points, status and purpose of guards, and range and location/alignment requirements of sensors and related feedback instruments
- operating capacities of equipment used in the system, such as different types of equipment and/or components as required by processing/packaging operations
- related systems and responsibilities for interaction, such as related production and further packaging/storage stages, services supply, maintenance, laboratory/quality assurance and planning and scheduling
- technical knowledge of product/packaging characteristics and the main factors that impact on shelf-life
- typical packaging related problems, including equipment faults, common causes and warning signs, incorrect or poor supply of materials and finished product, incorrect settings and poor operator control
- relevant procedures, specifications and operating parameters for the system and the individual processes
- isolation, lock out and tag out procedures and responsibilities
- hazards, risks, controls and methods for monitoring processes within the system, including occupational health and safety (OHS), food safety, quality and environmental hazards and risks
- workplace system and approach to equipment maintenance
- process improvement procedures and related consultative arrangements
- troubleshooting procedures and problem solving techniques
- communication responsibilities to inform related work areas/support functions and other shifts of operational status and production issues
- procedures and responsibility for reporting production and performance information

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on packaging system components • confirm machine set up is ready to achieve packing requirements • correctly use required personal protective equipment • start, operate, monitor and adjust process equipment throughout the system to achieve required quality outcomes • identify system problems and take corrective action • conduct operational handovers • shut down system • identify and investigate opportunities for operational improvements within areas of responsibility • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • production schedule and related advice on system requirements • information on equipment capacity and operating parameters • packaging system equipment and related accessories and services • product, packaging components and consumables as required by the process

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> communication and recording systems and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2030A Operate a process control interface FDFPPL3003A Support and mentor individuals and groups.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Food Standards Code and reference to food safety is replaced by GMP</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • performance records and reports
System operation	<p>A system typically involves a series of interrelated processes that must be coordinated and concurrently operated to produce the required outcome. System operation may involve:</p> <ul style="list-style-type: none"> • coordination of operators of system components
Handovers	<p>Handovers may be done:</p> <ul style="list-style-type: none"> • in person or via recording/communication systems according to workplace arrangements
Operation and monitoring of	<p>Operation and monitoring of equipment and</p>

RANGE STATEMENT	
equipment and system processes	system processes typically requires: <ul style="list-style-type: none"> the use of control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP3005A Prepare food products using basic cooking methods

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prepare food products using basic cooking methods.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a food production environment, including retail outlets for bread, cakes and other baked products, and enterprises where food production processes involve cooking of products. Operators requiring this competency would typically be required to follow specific recipes to value-add to food products.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS2001A	Implement the food safety program and procedures

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and handle cooking tools and equipment	1.1. Work area is prepared for operations and hygiene standards confirmed 1.2. Cooking utensils required for work are identified, handled and stored safely and according to workplace procedures 1.3. Equipment and machinery required for cooking operation is identified and prepared 1.4. Maintenance requirements for knives and other utensils are identified and implemented 1.5. Food safety requirements are implemented at all times when handling and using cooking utensils and equipment
2. Prepare ingredients	2.1. Major food group classifications are identified 2.2. Range of ingredients typically used in the workplace are identified, and their characteristics and effect on food quality and taste described 2.3. Recipe is examined and required ingredients identified 2.4. Sequence for preparation is determined 2.5. Ingredients are selected and quantity and quality confirmed using measuring or weighing devices or sensory analysis techniques 2.6. Ingredients are prepared and assembled according to recipe requirements 2.7. Ingredients are stored according to workplace procedures
3. Use basic cooking methods	3.1. Range of basic cooking methods are identified and their effect on quality, taste and nutritional value described 3.2. Cooking methods required by recipe are identified and sequence determined 3.3. Cooking method is applied to achieve quality standards for food item 3.4. Typical problems are identified and addressed 3.5. Cooking utensils and equipment is used according to manufacturer's instructions 3.6. Waste minimisation and environmental considerations are applied during cooking process 3.7. Cooking area, utensils and equipment are cleaned and stored according to workplace standards

ELEMENT	PERFORMANCE CRITERIA
4. Finish product	4.1. Cooked ingredients are transferred for further processing 4.2. Final product is assembled and presented or packed according to recipe or operating requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify and access ingredients
- identify the major food group classifications
- read and interpret recipe requirements
- safely and correctly use work utensils and equipment
- interpret numerical information on quantities and conduct measurements
- apply safe work and food safety standards
- select, fit and use personal protective clothing and/or equipment
- plan operations
- identify cooking problems and take corrective action, such as reporting abnormalities or problems, repeating processes and/or making required adjustments
- maintain work area to meet housekeeping standards

Required knowledge

Knowledge of:

- uses and characteristics of basic food ingredients
- major food groups and classifications
- principles of basic cookery
- food safety standards in the workplace
- common terminology used in cooking

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • prepare and use utensils and equipment safely and according to work procedures • identify major food groups and uses and effects of ingredients used in food products • prepare food products using basic cookery methods on more than one occasion • identify and address common cooking problems • apply safe work practices and food safety procedures • maintain cooking area according to workplace standards.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • recipes and work instructions • ingredients, utensils and equipment • cooking area facility.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice, • recipes
Food products	<p>Food products may incorporate a range of ingredients, such as:</p> <ul style="list-style-type: none"> • meat • dairy • grains • herbs and spices • flavourings
Utensils and equipment	<p>Utensils and equipment may include:</p> <ul style="list-style-type: none"> • ovens, microwaves and stoves • grills and griddles • deep-fryers and steamers • food processors • blenders, mixers and slicers • pans, pots and trays • knives • hand-held utensils
Basic cookery methods	<p>Basic cookery methods must include:</p> <ul style="list-style-type: none"> • boiling • poaching • steaming

RANGE STATEMENT	
	<ul style="list-style-type: none"> • stewing • braising • roasting • baking • grilling • shallow frying • deep-frying • stir-frying • pan-frying
Common cooking problems	<p>Common cooking problems may relate to:</p> <ul style="list-style-type: none"> • temperature • ingredient accuracy, quality and quantity • proportions and measurements • sequence of operations • timing

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFOP3006A Identify cultural, religious and dietary considerations for food production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to identify cultural, religious and dietary considerations when preparing food products or determining the suitability of food products to meet specific customer needs.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a food production environment where the specific cultural, religious or dietary needs of customers have to be taken into account. The unit may apply to food production directly undertaken by the employee or to the determination of the suitability of food prepared by others for customers with specific cultural, religious or dietary needs. Specific needs include products required for cultural and religious events and festivals, production processes to comply with religious prescriptions, such as Halal and Kosher, and dietary requirements, such as low fat, gluten free, diabetic safe food, and so on.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Identify cultural and religious requirements of customers</p>	<p>1.1. Cultural and religious practices and events that influence food production requirements are identified</p> <p>1.2. Food production methods and food products that cater for cultural and religious practices and events are identified</p> <p>1.3. The suitability of current food production methods and current food products against cultural and religious requirements are assessed</p> <p>1.4. If required, alternative processes and products are identified</p>
<p>2. Identify dietary requirements of customers</p>	<p>2.1. A range of specific dietary requirements and their impact on food production are identified</p> <p>2.2. Food products that cater for dietary requirements are identified</p> <p>2.3. The suitability of current food production methods and current food products are assessed against dietary requirements</p> <p>2.4. If required alternative processes and products are identified</p>
<p>3. Identify common food-related allergies</p>	<p>3.1. Common food-related allergies are identified</p> <p>3.2. Risk assessment is made of current products and processes against common food-related allergies</p> <p>3.3. Procedures to avoid contamination with allergens are identified</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- use communication skills to interpret customer requests and suggest appropriate products that meet customer requirements
- access information on cultural, religious and dietary needs
- apply product knowledge to determine appropriate food products and processes to comply with cultural, religious or dietary considerations

Required knowledge

Knowledge of:

- ingredients of available products
- food production processes

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify the food products commonly associated cultural, religious and dietary requirements • identify food processes commonly associated cultural religious and dietary requirements • identify common food allergens and contamination risks in the production process.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipes and customer specifications • production equipment appropriate to product type • materials/ingredients to meet recipe requirements • ingredient pricing information • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards, Code including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written operating procedures • specifications • production schedules • recipe instructions
Specific cultural and religious needs	<p>Specific cultural and religious needs may include:</p> <ul style="list-style-type: none"> • foods prepared to cultural and religious dietary laws (e.g. Kosher and Halal) • national and regional food products • foods that mark significant events (e.g. Christmas, Ramadan, Easter, Rosh Hashanah, Passover, Zul Hijjah and weddings) • feasting • fasting • alcohol-free beverages • pork-free foods • beef-free foods • vegetarian

RANGE STATEMENT	
Specific dietary needs	Specific dietary needs may include: <ul style="list-style-type: none"> • low GI • sugar free and/or fat free • dairy free • gluten free • flourless • rice flour • yeast free • low fat • low salt • vegetarian • vegan
Common allergies	Common allergies include allergies to: <ul style="list-style-type: none"> • dairy products • peanuts • wheat

Unit Sector(s)

Unit sector	Operational
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPB3001A Operate a dough mixing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the process used to make up dough.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a plant baking environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to mix dough. This includes selecting and mixing dough ingredients.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>Note that this unit duplicates the outcomes of FDFTEC3003A Apply raw materials, ingredient and process knowledge to production problems. Only one of these units can be counted towards a qualification outcome. For further information refer to advice on unit duplication in the section on qualification arrangements</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the dough making equipment and process for operation</p>	<p>1.1. Ingredients are weighed or measured to meet recipe requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Materials handling, mixing/blending equipment and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the dough mixing process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Ingredients are introduced to the mixing process in correct sequence and quantity</p> <p>2.3. Equipment is monitored to identify variation in operating conditions</p> <p>2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.5. The process is monitored to confirm that dough meets specifications</p> <p>2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.7. The finished dough is transferred to required location</p> <p>2.8. The work area is maintained according to housekeeping standards</p> <p>2.9. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.10. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down and cleaned according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify recipe and batch requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply and condition of necessary ingredients, such as flour and supply of services
- load materials in correct quantities and sequence according to company procedures
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for dough making requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm settings, such as:
 - mixing rate
 - mixing time/work input
 - ice/water requirements
 - water temperature
 - speed
 - flour temperature
 - cooling
 - vacuum delay and level
 - slurry addition
- start, operate, monitor and adjust dough making equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - dough consistency
 - temperature
 - development
 - timeliness
- adjust yeast levels to allow for rework addition and ambient temperature
- monitor supply and flow of materials to and from the dough making process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- demonstrate batch/product changeovers

REQUIRED SKILLS AND KNOWLEDGE

- follow isolation and lock out/tag out procedures as required to take dough making process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- clean and sanitise equipment
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the dough making process, including the components of wheat, flour types and grades relevant to products produced, yeast activity and dough development
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the dough making process, including the stages and changes which occur during baking, and the effect of outputs on downstream processes
- ingredient characteristics, and condition requirements and purpose in the dough and the finished product
- significance of factors, such as dough temperature, development, water addition/temperature, yeast activity and consistency of dough
- required characteristics of dough and effect of dough characteristics/variation on the final product
- quality requirements of materials and effect of variation in ingredient quality on the dough, including the impact of variation in flour quality
- stock management procedures, including stock rotation and use-by codes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the dough making process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the dough making process and the related procedures and recording requirements

REQUIRED SKILLS AND KNOWLEDGE

- ingredient/materials handling and storage requirements
- contamination/food safety risks associated with the dough making process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the dough making process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- cleaning and sanitation procedures
- environmental issues and controls relevant to the dough making process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for mixing dough • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • dough mixing process and related equipment and services • ingredients to be processed • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • mixers • scales • grain conditioners • materials handling equipment <p>Materials are typically delivered to the mixer via:</p> <ul style="list-style-type: none"> • peration of bulk materials handling systems <p>Non-bulk ingredients may be:</p> <ul style="list-style-type: none"> • dosed automatically or manually loaded
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems

RANGE STATEMENT**Services**

Services may need to be confirmed. These depend on the nature of the process. Typical examples include:

- power
- water
- compressed and instrumentation air
- refrigerant

Unit Sector(s)**Unit sector**

Plant baking

Competency field**Competency field****Co-requisite units****Co-requisite units**

FDFPB3002A Operate a final prove and baking process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the process used to carry out the final proving and baking of dough.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a plant baking environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to final prove and bake bread. This includes depanning the baked product.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the final proving and baking equipment and process for operation</p>	<p>1.1. Dough is supplied to the final prover to meet production/batch requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the final proving and baking process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that baked product meets specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the final proving and baking process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down and cleaned according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify final prove and baking processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that related equipment is clean and correctly configured for final prove and baking process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- specific settings may include:
 - final prover time, temperature, humidity and loading arm position
 - topping application equipment, water sprays and splitters for finishing equipment
 - oven time, temperature, lid positions, conveyors, loaders and dischargers, circulation and exhaust fans, burner controls and steam settings
 - depanning equipment heights, tin guides and air blowers and pre-blast conveyor settings
- start, operate, monitor and adjust final prove and baking process equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification:
 - for final prove, including dough condition/surface and dough size/height
 - for finishing/topping, including coverage/distribution of topping and visual inspection of appearance
 - for baking, including crust colour, sheen, uniformity of shape, weight and size
 - for the depanning unit, including removing bread cleanly from the pan
- monitor supply and flow of materials to and from the final prove and baking process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take final prove and baking process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers

REQUIRED SKILLS AND KNOWLEDGE

- clean and sanitise equipment
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each stage of the final prove and baking process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the final prove and baking process and the effect of outputs on downstream processes
- changes that occur in dough during baking, including starch gelatinisation, gluten coagulation and enzyme activity, and their effect on the final product
- the effect of process variables, such as time, temperature and humidity on process stages
- the effect of yeast activity on the end product
- quality characteristics to be achieved by the final prove and baking process, including factors influencing crust formation and colour
- quality requirements of materials and effect of variation on final prove and baking process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the final prove and baking process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the final prove and baking process and the related procedures and recording requirements
- contamination/food safety risks associated with the final prove and baking process and related control measures
- batch/product changeover requirements
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the

REQUIRED SKILLS AND KNOWLEDGE

- limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the final prove and baking process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- product/process changeover procedures and responsibilities
- cleaning and sanitation procedures
- environmental issues and controls relevant to the final prove and baking process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for final proving and baking • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • final proving, baking and depanning process and related equipment and services • panned dough • dough transfer equipment • sampling schedules and test procedures and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	<p>procedures</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • final provers and industrial ovens
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • gas

RANGE STATEMENT	
	• compressed and instrumentation air

Unit Sector(s)

Unit sector	Plant baking
--------------------	--------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPB3003A Operate a dough make up process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to set up, operate, adjust and shut down the process used to make up dough.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a plant baking environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of machines and equipment used to make up dough. This includes dividing and rounding, intermediate proving, moulding and panning.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the divider, rounder, moulder and panning equipment and process for operation</p>	<p>1.1. Dough is confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the dough make up process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that dough pieces meet specifications</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the dough make up process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down and cleaned according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify dough make up processing requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that related equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm/set pre-start check, such as:
 - divider speed, weight setting and oil supply
 - air flow from fans in rounder
 - intermediate proving process airflow and dusting as required
 - moulding process settings, including sheeting, sealing board height and width, four piecing and roller adjustments
 - panning process settings, including side guides, sealing board, knives, folders and side belts
 - confirming supply of pans, oiling pans as required and setting pan stops and guides for panning unit
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - dough height in hopper
 - dough weight
 - oil flow to divider
 - size and shape of dough piece
 - skin formation during intermediate proof
 - presence of 'doubles'
 - process variables such as time, temperature and humidity
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- demonstrate batch/product changeovers

REQUIRED SKILLS AND KNOWLEDGE

- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- clean and sanitise equipment
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each stage of the dough make up process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the dough make up process and the effect of outputs on downstream processes
- the effect of process variables, such as time, temperature and humidity on process stages
- the effect of process stages, such as moulding on dough structure
- quality characteristics to be achieved by the dough make up process
- quality requirements of materials and effect of variation on the dough make up process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, including procedures for rework addition
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the dough make up process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the dough make up process and the related procedures and recording requirements
- contamination/food safety risks associated with the dough make up process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls

REQUIRED SKILLS AND KNOWLEDGE

- requirements of different shutdowns as appropriate to the dough make up process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- cleaning methods and procedures
- isolation, lock out and tag out procedures and responsibilities
- cleaning and sanitation procedures
- product/process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the dough make up process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for making up dough
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- dough make up process and related equipment and services
- dough transfer equipment
- dough to be processed
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and

EVIDENCE GUIDE	
	<p>procedures</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • dividers • rounders • intermediate provers • moulders • panners • materials handling equipment
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples

RANGE STATEMENT

	include: <ul style="list-style-type: none"> • power • oil (for the divider) • compressed and instrumentation air
--	---

Unit Sector(s)

Unit sector	Plant baking
--------------------	--------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH1001A Follow work procedures to maintain Good Manufacturing Practice

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to comply with relevant Good Manufacturing Practice (GMP) codes and workplace quality standards.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a pharmaceutical manufacturing environment. Responsibility for applying GMP relates to the person's work area.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify requirements of GMP related to own work	1.1. Sources of information on GMP requirements are located 1.2. GMP requirements and responsibilities related to own work are identified
2. Observe personal hygiene and conduct to meet GMP requirements	2.1. Personal hygiene meets GMP requirements 2.2. Clothing is prepared, used, stored and disposed of according to GMP and workplace procedures 2.3. Personal movement around the workplace complies with area entry and exit procedures
3. Follow GMP requirements when carrying out work activities	3.1. GMP requirements are identified 3.2. Work area, materials, equipment and product are routinely monitored to ensure compliance with GMP requirements 3.3. Raw materials, product and packaging components are handled according to GMP and workplace procedures 3.4. Contamination is identified and appropriate control measures are followed relating to work responsibilities and according to GMP requirements 3.5. Processes, practices or conditions which are not consistent with GMP are identified and reported according to workplace reporting procedure 3.6. The workplace is maintained in a clean and tidy order to meet GMP housekeeping standards 3.7. Work is conducted in accordance with workplace environmental guidelines
4. Complete workplace documentation to support GMP	4.1. Documentation and recording requirements are identified 4.2. Information is recorded according to workplace reporting procedures to meet GMP requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- locate and follow workplace information relating to GMP responsibilities
- maintain personal hygiene consistent with GMP
- follow workplace procedures when moving around the workplace and/or from one task to another to maintain GMP
- use, store and dispose of appropriate clothing/footwear as required by work tasks and consistent with GMP
- carry out relevant checks and inspections as required, such as visual checks and inspections on equipment and/or raw materials, product, packaging components and processing conditions relevant to own work
- identify and respond to out-of-specification or unacceptable conditions or performance, such as making adjustments within level of responsibility and/or reporting
- follow GMP when carrying out work functions
- identify and report situations that do or could compromise GMP
- handle and/or dispose of out-of-specification or contaminated materials, packaging components/consumables and product, waste and recyclable material according to GMP as required by work responsibilities
- maintain the work area in a clean and tidy state
- identify and report signs of pest infestation
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the role of GMP in preventing contamination, its relationship to legislative responsibilities and potential implications of non-compliance
- the relationship between the Code of GMP and workplace procedures, systems and processes
- GMP personnel and their respective responsibilities
- personal role, responsibility and accountability for implementing GMP
- sources of advice on GMP requirements for own work
- personal clothing and footwear requirements for working in and/or moving between work areas

REQUIRED SKILLS AND KNOWLEDGE

- personal clothing use, storage and disposal requirements
- common types and sources of contamination that occur in the work area
- control methods and procedures used in the work area to maintain GMP, including an understanding of the purpose of control, the consequence if not controlled and the method of control where relevant
- monitoring, inspection and checking procedures relating to process control requirements
- standards for materials, equipment and utensils used in the work area
- evidence of out-of-standard or unacceptable performance
- action required in the event of non-compliance
- storage and handling requirements for raw materials, packaging components and product relevant to work role
- housekeeping requirements and responsibilities relating to own work, where relevant this includes use and storage of housekeeping/cleaning equipment
- waste collection, recycling and handling procedures relevant to own work responsibilities
- responsibilities for reporting and recording quality information

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify requirements of GMP • apply GMP procedures to own work • identify and report non-compliances • complete required documentation.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • GMP information relating to the workplace • related work instructions and procedures • work tasks and responsibilities • appropriate protective clothing • reporting and monitoring systems.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the work role. An example could be:</p> <ul style="list-style-type: none"> • FDFOP1009A Follow work procedures to maintain quality.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant GMP codes • the Therapeutic Goods Act • the Food Standards Code, including labelling, weights and measures legislation • legislation covering environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Reporting systems	<p>Reporting systems may include:</p> <ul style="list-style-type: none"> • electronic and manual data recording and storage systems

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2001A Apply Good Manufacturing Practice procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to comply with relevant Good Manufacturing Practice (GMP) codes through the implementation of workplace GMP and quality procedures.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to all production and packaging operators working in the pharmaceutical sector.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify requirements of GMP related to own work	1.1. Sources of information on GMP requirements are located 1.2. GMP requirements and responsibilities related to own work are identified
2. Ensure that personal hygiene and conduct meets GMP requirements	2.1. Personal hygiene meets GMP requirements 2.2. Clothing is prepared, used, stored and disposed of according to GMP and workplace procedures 2.3. Personal movement around the workplace complies with area entry and exit procedures
3. Implement GMP requirements when carrying out work activities	3.1. Work area, materials, equipment and product are routinely monitored to ensure compliance with GMP requirements 3.2. Raw materials, packaging components and product are handled/stored according to GMP and workplace procedures 3.3. Workplace procedures to control resource allocation are followed to meet GMP requirements 3.4. Common forms of contamination are identified and appropriate control measures are followed according to GMP requirements 3.5. The workplace is maintained in a clean and tidy order to meet GMP housekeeping standards 3.6. Work is conducted in accordance with workplace environmental guidelines 3.7. Out-of-specification or contaminated materials, packaging components/consumables and product, waste and recyclable materials are handled and disposed of according to GMP requirements and workplace procedures 3.8. Signs of unacceptable plant or equipment condition are identified and reported
4. Participate in improving GMP	4.1. Processes, practices or conditions which could result in non-compliance with GMP are identified and reported according to workplace reporting requirements 4.2. Corrective action is implemented within level of responsibility 4.3. GMP issues are raised with designated personnel
5. Complete workplace documentation to	5.1. Documentation and recording requirements are identified

ELEMENT	PERFORMANCE CRITERIA
support GMP	5.2. Information is recorded according to workplace reporting procedures to meet GMP requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- locate and follow workplace information relating to GMP responsibilities
- identify and report situations that do or could compromise GMP
- participate in procedures to support GMP within level of responsibility
- identify and respond to out-of-specification or unacceptable raw materials, packaging components, final or part processed product within level of responsibility
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the role of GMP in preventing contamination, its relationship to legal requirements of pharmaceutical manufacturers and potential implications of non-compliance
- GMP arrangements in the workplace, including relevant GMP codes of practice and related workplace policies and procedures to implement these responsibilities
- the relationship between GMP and the quality system, personnel responsible for designing and managing GMP, personal role to maintain GMP, and the role of internal and external auditors as appropriate
- procedures followed to investigate contamination events and performance improvement processes
- personal clothing and footwear requirements for working in and/or moving between work areas
- personal clothing use, storage and disposal requirements
- awareness of common micro-biological, physical and chemical contaminants relevant to the work process, including the types of contamination likely to occur, such as cross-contamination, the conditions under which they occur, possible consequences and control methods to prevent occurrence
- basic concepts of quality assurance, including quality specifications, operating parameters, validation procedures and control methods, and related documentation, including standard operating procedures (SOPs) and/or batch instructions
- control methods and procedures used in the work area to maintain GMP, including an understanding of the purpose of control, the consequence if not controlled and the method of control where relevant, as well as an understanding of the methods used to monitor process control

REQUIRED SKILLS AND KNOWLEDGE

- basic understanding of the properties, handling and storage requirements of raw materials, packaging components and final product handled and used
- standards for materials, equipment and utensils used in the work area
- procedures for responding to out-of-specification or unacceptable performance/outcomes
- purpose of keeping records and the recording requirements of GMP, including product and materials traceability procedures
- housekeeping requirements and responsibilities relating to own work, and use and storage of housekeeping/cleaning equipment where relevant
- waste collection, recycling and handling procedures relevant to own work responsibilities
- responsibilities for reporting and recording quality information

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment may occur in a real or simulated pharmaceutical or complementary medicine manufacturing workplace where the assessment environment provides access to workplace documentation related to GMP together with a range of commercial production/packaging equipment and activities typical of commercial manufacturing businesses and that meet the requirements of the Therapeutic Goods Act.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>GMP is an ongoing and routine aspect of work responsibilities. Assessors should collect sufficient evidence to ensure that the skills and knowledge of this unit are routinely applied to the work environment.</p> <p>Assessment must require the candidate to identify and demonstrate responsibilities for implementation of GMP in the workplace.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessment of this unit would typically involve questioning and workplace observation. It may involve additional collection of evidence from a range of sources, such as third party reports, workplace documentation relating to GMP and real or simulated workplace contexts.</p>
<p>Method of assessment</p>	<p>This unit is a core requirement for all pharmaceutical operators at AQF 2 and could be assessed concurrently with other operational units.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work activities are carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Unacceptable plant or equipment condition	<p>Unacceptable plant or equipment condition can include:</p> <ul style="list-style-type: none"> • damage to plant or equipment • failure of cleaning regime • signs of pest infestation
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant GMP codes • the Therapeutic Goods Act • other legislation and codes relevant to product and market • legislation relating to environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2002A Operate a concentration process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down processes used to concentrate liquid products.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to production operators working in the pharmaceutical sector. This person would typically work within defined Good Manufacturing Practice (GMP) programs and procedures.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the concentration equipment and process for operation	1.1. Materials and services are confirmed to meet production requirements 1.2. Workplace documentation relevant to work area activities is identified and followed 1.3. The required facilities, storage, equipment and personnel are available 1.4. Line clearance procedures have been carried out 1.5. Procedures to eliminate or control the risk of cross-contamination are followed 1.6. The concentration process is set up and started up in accordance with workplace practices
2. Operate and monitor the concentration process	2.1. The concentration process is monitored to confirm that specifications are met 2.2. Out-of-specification product/process is identified, rectified and/or reported to maintain the process within specification 2.3. The work area is maintained according to housekeeping standards 2.4. Work is conducted according to environmental standards 2.5. Workplace documentation is maintained according to workplace reporting requirements
3. Shut down the concentration process	3.1. The process is shut down according to workplace procedures and practices 3.2. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- select, fit and use personal protective clothing and/or equipment
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and turning on oil pumps to the evaporator, and pre-running equipment in line with operating temperature requirements where required
- start, operate, monitor and adjust process to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - product and machine temperature
 - vacuum
 - distillate colour
 - viscosity of concentrate
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- demonstrate batch/product changeovers including line clearance procedures
- clean and sanitise equipment as required
- sort, collect, treat, recycle or dispose of waste
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and principles of each stage of the concentration process, including the effect of heat and vacuum on distillate volume
- basic operating principles of the equipment, such as main equipment components and equipment operating capacities and applications
- services required and action to take if services are not available
- quality requirements of materials and the effect of variation on the concentration process

REQUIRED SKILLS AND KNOWLEDGE

- process specifications, procedures and operating parameters for different products/materials
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the concentration process, such as inspecting, measuring and testing as required by the process, and the ability to calculate yields and determine the number of passes required to ensure concentration is within specification
- contamination/food safety risks associated with the concentration process
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the risks involved with the use of solvents such as ethanol, and the limitations of protective clothing and equipment used
- concentration process shut down procedures and responsibilities
- line clearance procedures, including procedures for cleaning feed lines
- environmental issues and controls relevant to the concentration process, including waste collection and handling procedures related to the process
- cleaning and sanitation procedures
- workplace documentation and authorisation procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment may occur in a real or simulated workplace. Where a simulated environment is used, it should provide access to workplace documentation, plus liquid extracts to be concentrated, concentration equipment and services.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare the concentration process for operation, including following line clearance procedures • start up, operate and monitor equipment to produce concentrate within specifications • maintain all necessary records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace documentation relating to concentration process and procedures.
<p>Method of assessment</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessment of this unit would typically involve observation of the operator preparing, operating and shutting down the concentration process to meet production requirements. Observation should be sufficient to confirm consistent performance.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work activities are carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Workplace documentation	Workplace documentation relevant to work area activities include: <ul style="list-style-type: none"> • specifications • manufacturing formulae • processing instructions • batch production records • standard operating procedures (SOPs) • OHS information including material safety data sheets (MSDS)
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • legislative and licensing requirements • Therapeutic Goods Act • weights and measures legislation • legislation relating to OHS, environmental management, equal opportunity and affirmative action, industrial awards and agreements
Materials	Materials include: <ul style="list-style-type: none"> • feed liquor/liquids products • ethanol • distillate • water
Equipment	Equipment may include: <ul style="list-style-type: none"> • centrifugal evaporator and collecting vessels (the evaporator may or may not be in line with

RANGE STATEMENT	
	heat exchanger) Service equipment also includes: <ul style="list-style-type: none"> • boilers and cooling towers
Cleaning and sanitation	Cleaning and sanitation procedures may include: <ul style="list-style-type: none"> • cleaning in place procedures for cleaning equipment, involving cleaning with remaining distillate, rinsing with water, caustic cleaning and rinsing with water till machine is neutralised

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2003A Operate an extraction process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down processes used to extract phytochemicals from plant material using solvents.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to production operators working in the pharmaceutical sector. This person would typically work within defined Good Manufacturing Practice (GMP) programs and procedures.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the extraction equipment and process for operation	1.1. Materials are confirmed, blended and prepared to meet production requirements 1.2. Workplace documentation relevant to work area activities is identified and followed 1.3. The required facilities, storage, equipment and personnel are available 1.4. Line clearance procedures have been carried out 1.5. Procedures to eliminate or control the risk of cross-contamination are followed 1.6. Material is loaded into percolator and solvents are added to specification
2. Operate and monitor the extraction process	2.1. The extraction process is monitored to confirm that specifications are met 2.2. Out-of-specification product/process is identified, rectified and/or reported to maintain the process within specification 2.3. The work area is maintained according to housekeeping standards 2.4. Work is conducted according to environmental standards 2.5. Workplace documentation is maintained according to workplace reporting requirements
3. Shut down the extraction process	3.1. The process is shut down according to workplace procedures and work practices 3.2. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- select, fit and use personal protective clothing and/or equipment
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and placing sand filters/scourers in base of percolators where required
- start, operate, monitor and adjust process to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - density of herbs in percolator, including re-packing of percolator as required
 - rate/amount of solvent addition
 - extract collection and yield
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- demonstrate batch/product changeovers including line clearance procedures
- sort, collect, treat, recycle or dispose of waste
- clean and sanitise equipment as required as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and principles of each stage of the extraction process, including the effect of herb density on filtration and packing process required for different types of herbs
- basic operating principles of equipment, including main equipment components and equipment operating capacities and applications
- quality requirements of materials and the effect of variation on the extraction process
- process specifications, procedures and operating parameters for different products/materials

REQUIRED SKILLS AND KNOWLEDGE

- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the extraction process, such as inspecting, measuring and testing as required by the process, and the ability to calculate yields
- contamination/food safety risks associated with the extraction process
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the risks involved with the use of solvents, such as ethanol, and the limitations of protective clothing and equipment used
- extraction process shutdown and changeover procedures and responsibilities
- environmental issues and controls relevant to the extraction process, including waste collection and handling procedures related to the process
- cleaning and sanitation procedures
- workplace documentation and authorisation procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment may occur in a real or simulated workplace context. Where a simulated environment is used, it should provide access to workplace documentation, and a typical range of extraction solvents, material and equipment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare the extraction process for operation, including following line clearance procedures • load materials and solvents to maximise extract collection • monitor the extraction process • maintain all necessary records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace documentation relating to concentration process and procedures.
<p>Method of assessment</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessment of this unit would typically involve observation of the operator preparing, operating and shutting down the extraction process to meet production requirements. Observation should be sufficient to confirm consistent performance.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work activities are carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • legislative and licensing requirements • Therapeutic Goods Act • weights and measures legislation • legislation relating to OHS, environmental management, equal opportunity and affirmative action, industrial awards and agreements
Workplace documentation	Workplace documentation relevant to work area activities include: <ul style="list-style-type: none"> • specifications • manufacturing formulae • processing instructions • batch production records • standard operating procedures (SOPs) • OHS information, including material safety data sheets (MSDS)
Equipment	Equipment may include: <ul style="list-style-type: none"> • blenders/mixers • percolators • tamping rods • collection vessels
Extraction process	Solvents used in the extraction process may be: <ul style="list-style-type: none"> • aqueous and/or alcohol based (temperature may or may not be applied during extraction)

RANGE STATEMENT	
	process)

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2004A Operate a separation process using chromatography

Modification History

September 2012: clarified pre-requisite requirements.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a chromatography process where this process is used in production contexts.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to production operators working in the pharmaceutical sector. This person would typically work within defined Good Manufacturing Practice (GMP) programs and procedures.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2032 A	Work in a clean room environment* <i>FDFFS2001A Implement the food safety program and procedures</i> <i>FDFPH2001A Apply Good Manufacturing Practice procedures</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the chromatography equipment for operation	1.1. Workplace documentation relevant to work area activities is identified and followed 1.2. Equipment is cleaned, assembled and adjusted to meet operational requirements 1.3. Equipment components and related instrumentation are set to meet production requirements 1.4. Column status is checked and ready for operation 1.5. Pre-start checks are carried out as required by work practices 1.6. Equipment status reports are completed as required by workplace system
2. Prepare the samples and load product	2.1. Pre-sampling tests are conducted according to test method to confirm column operation 2.2. Tests results are interpreted 2.3. Out-of-specification results are identified, investigated to identify cause and reported according to workplace procedures 2.4. Product is loaded into columns
3. Operate and monitor the column operation	3.1. The process is started and operated according to work practices 3.2. Equipment is monitored to confirm that process cycles occur in the correct sequence 3.3. Variation in equipment operation and process outcomes is identified and promptly reported according to workplace reporting procedures 3.4. Separation of solution meets specifications 3.5. Workplace documentation is maintained according to workplace reporting requirements 3.6. Work is conducted in accordance with workplace environmental guidelines
4. Shut down the column process	4.1. The process is shut down according to workplace procedures 4.2. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- select, fit and use personal protective clothing and/or equipment, including gowning up, following required work area entry and exit procedures and moving around the work area to minimise risk of contamination
- prepare equipment for operation, such as inspecting equipment condition to identify any signs of wear, disinfecting and sterilising equipment and surfaces, assembling columns, confirming that connections and valves are correctly positioned, ensuring column lines have been purged and all safety guards are in place and operational, selecting instrumentation settings, cancelling isolation or lock outs as required, and conducting pre-start checks to check equipment readiness
- carry out sample testing to confirm integrity of columns (this is typically done by conducting a Height Equivalent to Theoretical Plate (HETP) test)
- demonstrate procedure for loading/packing product into columns
- start, operate, and monitor the process to achieve required outcomes, including monitoring:
 - chromatography cycles
 - correct collection of fractions as required
 - appropriate product segregation
 - pump operation
- take corrective action in response to out-of-specification results
- maintain security, integrity and traceability of samples, sub-samples and documentation
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate product/process changeovers, including demonstrating column storage procedures
- follow end of batch procedures including line clearance and cleaning, yield calculation, materials reconciliation and product labelling
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and principles of chromatography, including process, purpose and methods used for analysis and preparation
- basic operating principles of chromatography equipment, such as main equipment components, consequences of incorrect equipment preparation (i.e. incorrectly positioned non-return valve, supply pump failure and air in the column)
- quality characteristics and legal requirements to be achieved by the separation process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- sample test methods and action required if results are out-of-specification (i.e. action required if the HETP fails)
- procedures to collect fractions as appropriate to columns and process requirements
- procedures to identify traces as required and corrective action where traces are not within specification
- typical profile for a product cycle and the events to be monitored during the cycle
- procedures used to ensure product segregation
- analysis and interpretation of relevant test results and implications for action required
- GMP/Good Laboratory Practice (GLP) requirements associated with chromatography process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment used
- procedures and requirements of different shutdowns, including an understanding of the requirements for column storage, emergency and routine shutdowns and procedures to follow in the event of power outage
- line clearance, cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibilities for reporting production and performance information

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • perform sample testing to confirm integrity of columns • start up, operate and monitor chromatography process to ensure separation of solutions to meet specifications • maintain all necessary records.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • workplace documentation relating to separation process and procedures • chromatography equipment • typical range of samples to be tested • personal protective clothing and equipment • work procedures including advice on safe work practices, food safety, quality and environmental requirements.
Method of assessment	Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment. Assessment of this unit would typically involve observation of the operator preparing, operating and shutting down the separation process to meet production requirements. Observation should be sufficient to confirm consistent performance.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of

EVIDENCE GUIDE	
	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work activities are carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements

Legislative requirements

Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:

- legislative and licensing requirements
- Therapeutic Goods Act
- weights and measures legislation
- legislation relating to OHS, environmental management, equal opportunity and affirmative action, industrial awards and agreements

Workplace documentation

Workplace documentation relevant to work area activities include:

- specifications
- manufacturing formulae
- processing instructions
- batch production records
- standard operating procedures (SOPs)
- OHS information including material safety data sheets (MSDS)

Equipment

Chromatography equipment includes:

- columns
- flow meters
- UV meters
- filters and air sensors

Methods may include:

- ion exchange
- gel filtration

RANGE STATEMENT

- | | |
|--|---|
| | <ul style="list-style-type: none"> • size exclusion filtration |
|--|---|

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2005A Operate an aseptic fill and seal process

Modification History

September 2012: clarified pre-requisite information.

Unit Descriptor

Unit descriptor	<p>This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down an aseptic fill and seal process. This is a primary packaging process to fill product into packaging.</p> <p>This unit is based on and equivalent to FDFOP2021A Operate a fill and seal process.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in an aseptic packaging process within a graded clean room environment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
	<p>FDFOP2032 A</p> <p>Work in a clean room environment* <i>FDFFS2001A Implement the food safety program and procedures</i></p>

Prerequisite units	
	<i>FDFPH2001A Apply Good Manufacturing Practice procedures</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the filling and sealing equipment and process for operation	1.1. Materials and packaging components/consumables are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the filling and sealing process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Packaging quality and seal integrity are monitored to confirm that specifications are met 2.5. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Spillages are reported and removed according to standard operating procedures 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the filling and sealing process	3.1. End-of-batch procedures are completed in accordance with batch instructions and standard operating procedures (SOPs) 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment, including gowning up, following required work area entry and exit procedures and moving around the work area to minimise risk of contamination
- confirm supply of necessary packaging components/consumables and product
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, disinfecting and sterilising equipment and surfaces, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for packaging requirements, ensuring packaging components/consumables are loaded, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the filling and sealing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - flow rates
 - weights and volumes
 - fill levels
 - temperature, including materials and sealing temperatures
 - supply of packaging components/consumables
 - packaging quality and seal integrity, and where required, testing packaging integrity
- take corrective action in response to out-of-specification results
- monitor supply and flow of materials to and from the process
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take filling and sealing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate product/process changeovers
- follow end of batch procedures including line clearance and cleaning, yield calculation, materials reconciliation and product labelling
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- collect samples and conduct tests according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of filling and sealing, including properties of packaging materials used, the principles of heat sterilisation and its effect on microbiological characteristics of the product and packaging materials, and the filling process (methods may require exclusion of air using inert gas, such as nitrogen and filling under vacuum)
- aseptic container preparation, handling and loading
- basic operating principles of aseptic filling and sealing equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and services required for operation of filling equipment used in the workplace
- quality characteristics and legal requirements to be achieved by the filling and sealing process, such as quality requirements of packaging components/consumables, sterilisation requirements and procedures, filling (fill levels and weights), requirements of seal formation and integrity, and where relevant, understanding integrity testing procedures
- the flow of processes supplying the filling and sealing process and the effect of outputs on downstream processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- Good Manufacturing Practice (GMP) requirements associated with the liquid manufacturing process and related control measures
- common causes of variation and corrective action required, including the effect of variation in both product and packaging components/consumables on filling and sealing performance, e.g. it may include an understanding of the effect of temperature variation on the filling process
- product/packaging changeover procedures
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process

REQUIRED SKILLS AND KNOWLEDGE

- end-of-batch procedures, including procedures for calculating yield, materials reconciliation and action required if yield/reconciliation is not within prescribed limits, and product labelling responsibilities and procedures
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- line clearance, cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the filling and sealing process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on equipment used for filling and sealing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply GMP principles and procedures to work practices • maintain standards of a clean room work environment.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, GMP, quality and environmental requirements, stock flow systems and production/packaging schedules • information on equipment capacity and operating parameters • specifications, control points and operating parameters • aseptic filling and sealing process and related equipment and services • materials and packaging components and consumables • product

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • SOPs • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Filling and sealing equipment	<p>Filling and sealing equipment may include:</p> <ul style="list-style-type: none"> • pumps • aseptic fillers • hermetic sealers • aseptic packaging
Sterilisation methods	<p>Sterilisation methods used may include:</p> <ul style="list-style-type: none"> • use of heat (dry and steam) • chemicals (gases and liquids) • gamma irradiation • filtration

RANGE STATEMENT	
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services are appropriate to the process to be operated. Typical examples include: <ul style="list-style-type: none"> power steam water vacuum compressed and instrumentation air

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFPH2006A Operate an aseptic form, fill and seal process

Modification History

September 2012: clarified pre-requisite information.

Unit Descriptor

Unit descriptor	<p>This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down an aseptic form, fill and seal process. This is a primary packaging process to package product into appropriate packaging.</p> <p>This unit is based on and equivalent to FDFOP2020A Operate a form, fill and seal process.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in an aseptic packaging process within a graded clean room environment.</p> <p>Where bottles are formed as part of this process, also refer to PMBPROD211A Operate blow moulding equipment, and PMBPROD270A Operate injection blow moulding equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2032 A	Work in a clean room environment* <i>FDFFS2001A Implement the food safety program and procedures</i> <i>FDFPH2001A Apply Good Manufacturing Practice procedures</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the forming, filling and sealing equipment and process for operation</p>	<p>1.1. Materials and packaging components/consumables are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the forming, filling and sealing process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. Packaging quality and seal integrity are monitored to confirm that specifications are met</p> <p>2.5. Out-of-specification outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Spillages are reported and removed according to standard operating procedures</p> <p>2.9. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the forming, filling and sealing process</p>	<p>3.1. End-of-batch procedures are completed in accordance with batch instructions and standard operating procedures (SOPs)</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment, including gowning up, following required work area entry and exit procedures and moving around the work area to minimise risk of contamination
- confirm supply of necessary packaging components/consumables and product
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, disinfecting and sterilising equipment and surfaces, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for packaging requirements, packaging components/consumables are loaded, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the forming, filling and sealing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - container formation
 - flow rates
 - weights and volumes
 - fill levels
 - temperature, including materials and sealing temperatures
 - supply of packaging components/consumables
 - packaging quality and seal integrity, and where required, testing packaging integrity
- take corrective action in response to out-of-specification results
- monitor supply and flow of materials to and from the process
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take forming, filling and sealing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate product/process changeovers
- follow end-of-batch procedures, including line clearance and cleaning, yield calculation, materials reconciliation and product labelling
- complete workplace records as required

REQUIRED SKILLS AND KNOWLEDGE

- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of forming, filling and sealing, including the properties of packaging materials used, the forming process, and principles of heat sterilisation and its effect on microbiological characteristics of the product and packaging materials
- aseptic container preparation/forming, filling and sealing requirements
- basic operating principles of aseptic forming, filling and sealing equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and services required for operation of form, fill and seal equipment used in the workplace
- quality characteristics and legal requirements to be achieved by the forming, filling and sealing process, such as understanding quality requirements of packaging components/consumables, sterilisation requirements and procedures, container formation, filling (fill levels and weights), requirements of seal formation and integrity, and where relevant, integrity testing procedures
- the flow of processes supplying the forming, filling and sealing process and the effect of process output on downstream processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- Good Manufacturing Practice (GMP) requirements associated with the liquid manufacturing process and related control measures
- common causes of variation and corrective action required, including an understanding of the effect of variation in both product and packaging components/consumables on filling and sealing performance, e.g. it may include an understanding of the effect of temperature variation on the filling process
- product/packaging changeover procedures
- occupational health and safety (OHS) hazards and controls, including the

REQUIRED SKILLS AND KNOWLEDGE

- limitations of protective clothing and equipment relevant to the work process
- end-of-batch procedures, including procedures for calculating yield, materials reconciliation and action required if yield/reconciliation is not within prescribed limits, and product labelling responsibilities and procedures
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- line clearance, cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the forming, filling and sealing process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing procedures where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for forming, filling and sealing • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, GMP, quality and environmental requirements, stock flow systems, production/packaging schedules • information on equipment capacity and operating parameters • specifications, control points and operating parameters • aseptic forming, filling and sealing process and related equipment and services • materials and packaging components/consumables to be formed, filled and sealed • product • sampling schedules and test procedures and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	<p>procedures</p> <ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competence relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • SOPs • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Forming, filling and sealing equipment	<p>Forming, filling and sealing equipment and consumables may include:</p> <ul style="list-style-type: none"> • pumps • aseptic form • fill and seal equipment • aseptic bottle fillers/cappers • hermetic sealers • aseptic packaging • aseptic plastic pouches • aseptic carton systems
Sterilisation methods	<p>Sterilisation methods used may include:</p>

RANGE STATEMENT	
	<ul style="list-style-type: none"> • use of heat (dry and steam) • chemicals (gases and liquids) • gamma irradiation • filtration
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services are appropriate to the process to be operated. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • compressed and instrumentation air

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFPH2007A Coordinate a label store

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to manage a label store in a pharmaceutical workplace to meet workplace and legislative requirements.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to management of a secure label store and has application in a pharmaceutical manufacturing environment. It typically targets the production worker responsible for receiving, issuing and reconciling labels for pharmaceutical products.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Receive labels	1.1. Label details are identified and verified 1.2. The quantity of labels received is counted and reconciled against receipts documentation 1.3. Discrepancies are identified, investigated and reported
2. Issue and reconcile labels	2.1. Labels are located/created to meet batch requirements 2.2. Labels are issued in correct quantities to meet batch requirements 2.3. Labels returned to store are received, reconciled and recorded according to verification and reconciliation procedures 2.4. Records are maintained to meet workplace and legislative requirements 2.5. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- follow receivals procedures to receive, count and store labels
- access production schedule to identify label requirements
- carry out procedures to test accuracy of label counting machines and record results
- verify that label information meets batch type, including setting up and using label counting equipment
- demonstrate the procedure for removing and accounting for damaged or other non-conforming labels
- select and issue labels to meet batch requirements and documentation
- demonstrate procedures to receive labels issued and returned from production
- conduct reconciliations of labels received and issued and conduct backup verification as required
- maintain security of label store
- maintain work area to meet housekeeping standards
- operate label coding and printing equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- system of label control, including the purpose and procedures for receiving, issuing, reconciling and verifying label management
- legislative responsibilities relating to label management
- purpose and requirements of security procedures and responsibilities
- types of labels received and issued and significance of codes
- consequences of issuing incorrect labels
- procedures for setting up, testing and operating label store equipment, including label counting equipment
- corrective action required if a discrepancy is identified
- occupational health and safety (OHS) hazards associated with the work role
- procedures and responsibility for recording and reporting information
- operating procedures for label coding and printing equipment where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • receive and verify labels • issue labels according to batch requirements • take corrective action in response to typical faults and discrepancies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • label management system and procedures • documentation and recording requirements and procedures • labels • label counting equipment • label printing equipment and consumables as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • labels and related documentation • production schedules and instructions • standard forms and reports

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2008A Operate a compressing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the compressing process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a pharmaceutical manufacturing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a compressing process.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the compressing process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the compressing process	2.1. The compressing process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that tablet product meets specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental standards 2.8. Spillages are reported and removed according to standard operating procedures 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the compressing process	3.1. End-of-batch procedures are completed in accordance with batch instructions and standard operating procedures (SOPs) 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

Required knowledge

Knowledge of:

- purpose and basic principles of the compressing process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- purpose and characteristics of ingredients/raw materials used and their role in the tablet
- types of raw materials used in the encapsulation process and related handling/segregation requirements, including handling hazardous goods
- stages and changes which occur during compression
- quality characteristics and legal requirements to be achieved by the compressed tablet
- the flow of the compressing process and the effect of outputs on downstream pharmaceutical processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the compressing process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- Good Manufacturing Practice (GMP) requirements associated with the compressing process and related control measures
- common causes of variation and corrective action required
- product/process changeover procedures and responsibilities
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- end-of-batch procedures, including procedures for calculating yield, materials reconciliation and action required if yield/reconciliation are not within prescribed limits, and product labelling responsibilities and procedures
- requirements of different shutdowns as appropriate to the compressing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- line clearance, cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the compressing process, including waste collection and handling procedures related to the process

Required knowledge

- | |
|--|
| <ul style="list-style-type: none">• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on equipment used for compressing
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, GMP, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- compressing process and related equipment and services
- materials required for the compressing process
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures, including labels
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes, • the Therapeutic Goods Act and/or other relevant legislation, and • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • SOPs • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Compressing equipment and accessories	<p>Compressing equipment and accessories may include:</p> <ul style="list-style-type: none"> • single punch compressors • rotary compressors • punches • dies
Stock	Stock for the process is supplied from the granulation process and the dispensing process
Raw materials/ingredients	Raw materials/ingredients which are added to the granulated product may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • diluents • adhesives/binders • disintegrants • glidants • lubricants • fillers • colourants • flavouring agents
In-process tests	<p>In-process tests may include:</p> <ul style="list-style-type: none"> • appearance • hardness • friability • disintegration • weight • dimensions
Work	<p>Work may involve:</p> <ul style="list-style-type: none"> • exposure to dangerous and hazardous substances
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • gases • compressed and instrumentation air

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2009A Dispense pharmaceutical raw materials

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to weigh, measure and label non-bulk ingredients to meet batch requirements.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to production operators working in the pharmaceutical sector. This person would typically work within defined Good Manufacturing Practice (GMP) programs and procedures. This unit typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of measuring and dispensing equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to dispense raw materials	1.1. Materials are inspected to confirm type, quality clearance, quantities and identify any obvious contamination or non-compliance 1.2. Measuring and weighing equipment is selected appropriate to dispensing requirements and checked to confirm readiness for use 1.3. Containers/bags and labels are available as required 1.4. Pre-start checks are carried out as required by workplace requirements
2. Measure and/or weigh raw materials	2.1. Non-bulk ingredients and additives are weighed/measured to meet production requirements 2.2. Dispensed ingredients are labelled according to workplace procedure 2.3. Accuracy of measuring/dispensing equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The work area is maintained according to housekeeping standards 2.6. Work is conducted in accordance with workplace environmental guidelines
3. Shut down the dispensing process	3.1. Dispensing equipment is cleaned according to workplace procedure 3.2. Unacceptable equipment/utensil condition is identified and reported 3.3. Dispensed materials are recorded and reconciled 3.4. Maintenance requirements are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify dispensing requirements
- select, fit and use personal protective clothing and/or equipment, such as breathing apparatus and fume cabinets as required
- confirm supply of necessary raw materials, such as checking raw material labels and codes, quantity and quality clearance
- conduct pre-start checks on equipment, such as inspecting the condition and cleanliness of equipment and utensils, taring scales and carrying out any related procedures to confirm that equipment is accurately calibrated and fit for use
- measure materials and additives within specified accuracy range to meet batch requirements
- calculate assay/potency adjustment
- verify accuracy of raw materials dispensed with raw materials records
- take corrective action in response to out-of-specification results
- pace dispensing to meet production requirements
- pack and label dispensed materials as required
- follow labelling procedures
- reconcile and record materials dispensed against materials released and return unused materials to storage as required
- stack dispensed materials for transfer to designated location ensuring required material segregation
- handle containers according to workplace procedures to maintain integrity of materials
- clean dispensing equipment and utensils according to workplace procedures
- respond to and/or report equipment failure within level of responsibility
- complete dispensing records as required by workplace recording system
- maintain work area to meet housekeeping standards
- collect samples and conduct test according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the dispensing process, including the characteristics

REQUIRED SKILLS AND KNOWLEDGE

- of raw materials and related handling requirements
- dangerous goods handling requirements and procedures
- relevant legislative responsibilities and workplace systems for recording information on dispensed pharmaceutical materials and related workplace coding and labelling systems and purpose
- the relationship between the dispensing process and related operations, including an understanding of accuracy/tolerance and consequence of error
- purpose, measuring/accuracy capacity of instrumentation and related equipment calibration responsibilities and procedures
- control points in the dispensing process
- procedures for calculating assay and adjusting potency
- raw materials reconciliation purpose and procedures, such as reconciliation of S8 materials
- GMP requirements associated with the dispensing process and related control measures
- procedures for requisitioning, receiving and returning ingredients from stores
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- cleaning, care and storage of equipment and instrumentation used
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the dispensing process, including waste/rework collection and handling procedures related to the process
- sampling and testing associated with process monitoring and control where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • weigh and measure materials to achieve required quantities • start, operate, monitor and adjust dispensing equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, GMP, SOPs and environmental requirements • information on equipment capacity and operating parameters • dispensing schedule, batch instructions • specifications, control points and processing parameters • dispensing process and related equipment and services • materials required for the dispensing process • containers/bags, labelling and storage facilities • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2013A Apply sampling procedures • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production/dispensing schedules and instructions • batch/recipe instructions • manufacturers' advice • standard forms and reports
Dispensing equipment	Dispensing equipment may include: <ul style="list-style-type: none"> • scales • pipettes • calibrated measuring containers • fume cabinets • labels/printers and related dispensary instrumentation
Raw materials	Raw materials may include: <ul style="list-style-type: none"> • drugs of addiction classified as S8

RANGE STATEMENT	
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2010A Operate an encapsulation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the encapsulation process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a pharmaceutical manufacturing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of an encapsulation process and equipment. This person would typically work within defined Good Manufacturing Practice (GMP) programs and procedures.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the encapsulation process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the encapsulation process	2.1. The encapsulation process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that capsules meet specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental standards 2.8. Spillages are reported and removed according to standard operating procedures 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the encapsulation process	3.1. End-of-batch procedures are completed in accordance with batch instructions and standard operating procedures (SOPs) 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify production requirements for the encapsulation process
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services to the encapsulation process
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming line clearance and cleaning status and that equipment is correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- verify raw materials with batch instructions
- start, operate, monitor and adjust encapsulation process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - flow rates/quantity
 - product quality
- take corrective action in response to out-of-specification results, such as adjusting the flow rates
- monitor supply and flow of materials to and from the encapsulation process
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take encapsulation process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- follow end-of-batch procedures, including line clearance and cleaning, yield calculation, materials reconciliation and product labelling
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the encapsulation process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- types of raw materials used in the encapsulation process and related handling/segregation requirements, such as handling hazardous goods
- stages and changes which occur during encapsulation
- quality characteristics and legal requirements to be achieved by the encapsulation process
- the flow of the encapsulation process and the effect of outputs on downstream pharmaceutical processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the encapsulation process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the encapsulation process and the related procedures and recording requirements
- GMP requirements associated with the encapsulation process and related control measures
- common causes of variation and corrective action required
- product/process changeover procedures and responsibilities
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- end-of-batch procedures including procedures for calculating yield, materials reconciliation and action required if yield/reconciliation is not within prescribed limits, and product labelling responsibilities and procedures
- requirements of different shutdowns as appropriate to the encapsulation process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- line clearance, cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the encapsulation process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on equipment used for encapsulation • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, GMP, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • encapsulation process and related equipment and services • materials required for the encapsulation process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • SOPs • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Encapsulation equipment and accessories	<p>Encapsulation equipment and accessories may include:</p> <ul style="list-style-type: none"> • semi-automatic filling machines • intermittent filling machines • continuous filling machines • augers • stirrers • hoppers • post-ejection accessories
Encapsulation filling methods	<p>Encapsulation filling methods may include:</p> <ul style="list-style-type: none"> • powder filling

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pellet filling • solid filling • liquid filling
Stock	<p>Stock for the encapsulation process:</p> <ul style="list-style-type: none"> • is supplied from the granulation process and ingredients/raw materials from the dispensing process
Capsule defects	<p>Capsule defects may include:</p> <ul style="list-style-type: none"> • short body • short cap • rough cut, • collet pinches • punched ends • long body or cap • split • wrinkles • specks • star ends • dirt • strings • bubbles • print errors/defects
Work	<p>Work may involve:</p> <ul style="list-style-type: none"> • exposure to dangerous and hazardous substances
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water

RANGE STATEMENT

	<ul style="list-style-type: none"> • vacuum • gases • compressed and instrumentation air
--	---

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2011A Operate a granulation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the granulation process.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a pharmaceutical manufacturing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a granulation process and equipment.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the granulation process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the granulation process	2.1. The granulation process is started up and operated according to workplace specifications 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that granulated product meets specifications 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to environmental standards 2.8. Spillages are reported and removed according to standard operating procedures (SOPs) 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the granulation process	3.1. End-of-batch procedures are completed in accordance with batch instructions and SOPs 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify production requirements for the granulation process
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming line clearance and cleaning status, ensuring equipment is correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- verify raw materials with batch instructions
- start, operate, monitor and adjust granulation process equipment to achieve required outcomes, including interpreting and implementing batch instructions, labelling product, calculating yield, monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - granule size
 - moisture content
- take corrective action in response to out-of-specification results
- monitor supply and flow of materials to and from the granulation process
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take granulation process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- follow end-of-batch procedures including line clearance and cleaning, yield calculation, materials reconciliation and product labelling
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the granulation process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- types of raw materials used in the granulation process and related handling/segregation requirements, such as handling hazardous goods
- stages and changes which occur during granulation
- quality characteristics and legal requirements to be achieved by the granulation process
- the flow of the granulation process and the effect of outputs on downstream pharmaceutical processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the granulation process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the granulation process and the related procedures and recording requirements
- Good Manufacturing Practice (GMP) requirements associated with the granulation process and related control measures
- common causes of variation and corrective action required
- product/process changeover procedures and responsibilities
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- end-of-batch procedures, including procedures for calculating yield, materials reconciliation and action required if yield/reconciliation is not within prescribed limits, and product labelling responsibilities and procedures
- requirements of different shutdowns as appropriate to the granulation process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- line clearance, cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the granulation process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <p>relationship between control panels and systems and the physical equipment</p> <ul style="list-style-type: none">• sampling and testing associated with process monitoring and control where relevant• routine maintenance procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on equipment used for granulation • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, GMP, SOPs and environmental requirements • information on equipment capacity and operating parameters • production schedule, batch instructions • specifications, control points and processing parameters • granulation process and related equipment and services • materials required for the granulation process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information may include: <ul style="list-style-type: none"> • SOPs • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Granulation	Granulation may be: <ul style="list-style-type: none"> • a dry or wet process or a combination
Granulation equipment	Granulation equipment may include: <ul style="list-style-type: none"> • granulators • mixers • blenders • dryers • oscillators • mills • sieves

RANGE STATEMENT	
Stock	Stock for the granulation process is supplied from the dispensing process and from bulk containers
Service	Services may include: <ul style="list-style-type: none"> • deionised/purified water
Work	Work may include: <ul style="list-style-type: none"> • exposure to dangerous and hazardous substances
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • steam • water • compressed and instrumentation air

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2012A Operate a liquid manufacturing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the liquid manufacturing process
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to production operators working in the pharmaceutical sector. This person would typically work within defined Good Manufacturing Practice (GMP) programs and procedures.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the liquid manufacturing process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the liquid manufacturing process	2.1. Raw materials are delivered to the process in the required quantities and sequence to meet recipe specifications 2.2. The process is started and operated according to workplace procedures 2.3. Equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The process is monitored to confirm that specifications are met 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The liquid mix is transferred to the required production or storage location 2.8. Spillages are reported and removed according to standard operating procedures 2.9. The work area is maintained according to housekeeping and environmental standards 2.10. Workplace records are maintained according to workplace recording requirements
3. Shut down the liquid manufacturing process	3.1. End-of-batch procedures are completed in accordance with batch instructions and standard operating procedures (SOPs) 3.2. The process is shut down according to workplace procedures

ELEMENT	PERFORMANCE CRITERIA
	3.3.Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify liquid manufacturing process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services to the liquid manufacturing process
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming line clearance and cleaning status, ensuring equipment is correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- add/load materials in correct quantities and sequence, such as monitoring automatic ingredient addition and/or manual addition
- start, operate, monitor and adjust liquid manufacturing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification
- take corrective action in response to out-of-specification results
- monitor supply and flow of materials to and from the liquid manufacturing process
- pace the liquid manufacturing process to meet production requirements
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take liquid manufacturing process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- follow end-of-batch procedures, including line clearance and cleaning, yield calculation, materials reconciliation and product labelling
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the liquid manufacturing process, including the characteristics and basic function of raw materials used, and method and sequence of addition required to achieve required mix characteristics, and where required, the characteristics of solutions, suspensions and emulsions
- basic understanding of specific gravity and bulk density as appropriate for ingredients used
- basic operating principles of liquid manufacturing equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, the purpose and location of sensors and related feedback instrumentation, and awareness of calibration schedules for scales and related weighing/measuring equipment
- services required and action to take if services are not available
- stages and changes which occur during liquid manufacturing
- quality characteristics and legal requirements to be achieved by the liquid manufacturing process
- the flow of the liquid manufacturing process and the effect of outputs on downstream pharmaceutical processes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the liquid manufacturing process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the liquid manufacturing process and the related procedures and recording requirements, including monitoring:
 - flow rates
 - materials addition sequence
 - times/temperatures and agitator speeds
 - required characteristics of manufactured liquid
- GMP requirements associated with the liquid manufacturing process and related control measures
- common causes of variation and corrective action required
- product/process changeover procedures and responsibilities
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- end-of-batch procedures, including procedures for calculating yield, materials reconciliation and action required if yield/reconciliation is not within prescribed limits, and product labelling responsibilities and procedures
- requirements of different shutdowns as appropriate to the liquid manufacturing

REQUIRED SKILLS AND KNOWLEDGE

- process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- line clearance, cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the liquid manufacturing process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on equipment used for liquid manufacturing process
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, GMP, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- liquid manufacturing process and related equipment and services
- materials required for the liquid manufacturing process
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • SOPs • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Liquid manufacturing	<p>Liquid manufacturing equipment may include:</p> <ul style="list-style-type: none"> • tanks • mixers • homogenisers • thermal jackets • mills • filters • vacuum systems • pumps • stirrers and impellers • purified water systems

RANGE STATEMENT	
	<ul style="list-style-type: none"> materials handling equipment
Stock	Stock for the liquid manufacturing process: <ul style="list-style-type: none"> is supplied from the dispensing process and from bulk containers
Operation of equipment and processes	Operation of equipment and processes may require: <ul style="list-style-type: none"> the use of process control panels and systems
Work	Work may involve: <ul style="list-style-type: none"> exposure to dangerous and hazardous substances
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> power steam water vacuum gases compressed and instrumentation air

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2013A Operate a tablet coating process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate and shut down the tablet coating process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a pharmaceutical manufacturing environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a tablet coating process.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the tablet coating process for operation	1.1. Tablets and coating materials are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements 1.4. Processing/operating parameters are entered as required to meet safety and production requirements 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the tablet coating process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that coated tablets meet specifications 2.5. Spillages are reported and removed according to standard operating procedures (SOPs) 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted according to environmental standards 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the tablet coating process	3.1. End-of-batch procedures are completed in accordance with batch instructions and SOPs 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify tablet coating process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary tablets, coating materials and services to the tablet coating process
- prepare coating materials according to specification
- conduct pre-start checks on coating application equipment, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming line clearance and cleaning status, ensuring equipment is correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust the tablet coating process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - pan preparation/coating
 - coating addition rate
 - addition/dosing of materials
 - drying air temperature and flow
 - addition of polishing agent/gum as required
- take corrective action in response to out-of-specification results
- monitor supply and flow of materials to and from the tablet coating process
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take the tablet coating process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- follow end-of-batch procedures, including line clearance and cleaning, yield calculation, materials reconciliation and product labelling
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the tablet coating process, such as tablet preparation/conditioning procedures and requirements, coating preparation and the stages in the coating process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the tablet coating process and the effect of outputs on downstream pharmaceutical processes
- stages and changes which occur during tablet coating
- types of materials used in preparation of coatings and related handling/segregation requirements
- quality characteristics and legal requirements to be achieved by the tablet coating process
- effect of tablet coating process on the end product
- quality requirements of materials and effect of variation on tablet coating process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the tablet coating process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the tablet coating process and the related procedures and recording requirements
- Good Manufacturing Practice (GMP) requirements associated with the tablet coating process and related control measures
- common causes of variation and corrective action required
- product/process changeover procedures and responsibilities
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- end-of-batch procedures, including procedures for calculating yield, materials reconciliation and action required if yield/reconciliation is not within prescribed limits, and product labelling responsibilities and procedures
- requirements of different shutdowns as appropriate to the process and workplace

REQUIRED SKILLS AND KNOWLEDGE

- production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- line clearance, cleaning and sanitation procedures
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the tablet coating process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for coating tablets
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, GMP, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- tablet coating process and related equipment and services
- materials required for the tablet coating process, including tablets and coating materials
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> FDFOP2003A Clean equipment in place FDFOP2004A Clean and sanitise equipment FDFOP2011A Conduct routine maintenance FDFOP2013A Apply sampling procedures FDFOP2030A Operate a process control interface MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • SOPs • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Tablet coating equipment	<p>Tablet coating equipment may include:</p> <ul style="list-style-type: none"> • coating preparation (homogenisers, blenders and mixers) • heat exchangers • pumps • jacketed spray guns/heads • coating pans • polishing pans • holding tanks
Tablet coating processes	<p>Tablet coating processes may include:</p> <ul style="list-style-type: none"> • sugar coating

RANGE STATEMENT	
	<ul style="list-style-type: none"> • film coating
Materials	<p>Materials used in the sugar coating process include:</p> <ul style="list-style-type: none"> • purified water • cellulose derivatives • polyvinal • gums • sugar <p>Materials used in film coating include:</p> <ul style="list-style-type: none"> • purified water • cellulose derivatives
Work	<p>Work may involve:</p> <ul style="list-style-type: none"> • exposure to dangerous and hazardous substances
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • steam • water • vacuum • gases • compressed and instrumentation air

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH2014A Operate a terminal sterilisation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a terminal sterilisation process using an autoclave. This may be used to sterilise items such as product prior to packing, equipment parts and clothing.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of an autoclave.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the equipment and process for operation	1.1. Items to be sterilised are confirmed and prepared 1.2. The autoclave is prepared for operation 1.3. Operating parameters are selected as required to meet safety and terminal sterilisation requirements 1.4. Pre-start checks are carried out as required by workplace requirements 1.5. Items are loaded according to load pattern
2. Operate the autoclave to terminally sterilise items	2.1. The autoclave is started and operated according to workplace procedures 2.2. Time and temperature parameters are monitored to confirm requirements are met 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Workplace records are maintained according to workplace recording requirements 2.5. Work is conducted in accordance with workplace environmental guidelines
3. Remove items and follow shut down procedures	3.1. Items are removed from the autoclave according to workplace procedures 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify sterilisation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- prepare items by wrapping and marking with temperature-sensitive tape/material and ensure clothing is folded correctly
- load items according to loading pattern
- conduct pre-start checks on the autoclave, such as inspecting equipment condition to confirm that all water has been drained, pulling a vacuum to remove as much air as possible from the autoclave, selecting appropriate settings to meet sterilisation requirements, cancelling isolation or lock outs as required, confirming that equipment is clean and operational, positioning sensors and controls correctly, and ensuring all safety guards/signs are in place and operational
- start, operate and monitor the autoclave to confirm that the required outcomes are achieved, such as monitoring time, temperature and pressure gauges
- identify out-of-specification results and take appropriate corrective action within level of responsibility
- follow procedures to open autoclave and remove items from the autoclave to maintain sterility and personal safety
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of terminal sterilisation, including principles of heat

REQUIRED SKILLS AND KNOWLEDGE

- transfer, properties of saturated steam, and the relationship between time, temperature and pressure as they affect the kill rate
- the nature of items to be sterilised using an autoclave and related preparation requirements, such as handling/preparation requirements for porous and non-porous loads
 - the nature of wrapping materials suitable for use, the methods used to wrap items, methods used to monitor that time/temperature parameters are met - typically heat-sensitive tape or markers and the significance of loading patterns in achieving effective sterilisation
 - basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation, and where relevant, the calibration schedule and procedures to confirm that instruments are within calibration
 - services required and action to take if services are not available
 - time/temperature parameters required to achieve terminal sterilisation and corrective action required where operation is outside specified operating parameters
 - typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
 - methods used to monitor the sterilisation process, such as inspecting, measuring and testing as required
 - inspection or test points (control points) and the related procedures and recording requirements
 - possible causes of variation in outcome and corrective action required
 - occupational health and safety (OHS) hazards related to autoclave operation and associated control measures, such as working with superheated steam and around hot surfaces, manual handling and steam leaks
 - purpose and limitations of protective clothing and equipment
 - emergency and routine shutdown procedures and procedures to follow in the event of a power outage
 - isolation, lock out and tag out procedures and responsibilities
 - procedures and responsibility for recording and reporting information on autoclave performance
 - environmental issues and controls relevant to the process, including waste/rework collection and handling procedures related to the process
 - basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
 - sampling and testing associated with process monitoring and control where relevant
 - routine maintenance procedures where relevant
 - cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on autoclave and materials to be sterilised • start, operate, monitor and adjust autoclave to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment and remove items • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, GMP, quality and environmental requirements • information on equipment capacity and operating parameters • sterilisation schedule/instructions • specifications, control points and processing parameters • autoclave equipment and services • wrapping materials and tape/heat sensitive markers as required • items to be sterilised • materials handling equipment as required • sampling schedules and test procedures and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and/or other relevant legislation • legislation covering environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Materials	<p>Materials include:</p> <ul style="list-style-type: none"> • wrapping material • printed paper rolls • temperature-sensitive tape or other indicator
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of simple control panels
Services	<p>Services may need to be confirmed. Typical examples include:</p> <ul style="list-style-type: none"> • power

RANGE STATEMENT

	<ul style="list-style-type: none"> • steam • water • vacuum and compressed air
--	---

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH3001A Monitor and maintain Good Manufacturing Practice procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to provide a leadership role in supporting day-to-day implementation of Good Manufacturing Practices (GMP) in a work area. It also involves supporting others to implement the requirements of GMP.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to those with formal responsibility for others and to those required to model workplace policies and procedures but who have no formal management role.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Ensure others in the work area are able to meet GMP requirements	1.1. Relevant clothing and equipment appropriate to work requirements is available, functional and correctly fitted 1.2. Advice on GMP responsibilities and procedures is accessible and clearly explained 1.3. GMP control measures used in the work area can be identified by those in the work area 1.4. Mentoring and coaching support is available to support individuals/groups to implement GMP and related procedures 1.5. Training needs are identified and addressed within level of responsibility
2. Monitor personal hygiene and conduct of team members in the work area	2.1. Personal hygiene of work team meets GMP requirements 2.2. Clothing is prepared, used, stored and disposed of according to GMP and workplace procedures 2.3. Personal movement around the workplace complies with area entry and exit procedures
3. Monitor implementation of GMP requirements in the work area	3.1. GMP procedures in the work area are clearly defined, documented and followed 3.2. Non-compliance from identified procedures is reported and addressed within level of responsibility 3.3. Signs of unacceptable plant or equipment condition are identified and reported 3.4. Personal behaviour provides a role model to others to support implementation of GMP workplace policies and procedures 3.5. Workplace procedures to control resource allocation are followed to meet GMP requirements 3.6. GMP non-conformance is identified and reported according to workplace procedure 3.7. GMP information is recorded to meet workplace reporting requirements 3.8. The workplace is maintained in a clean and tidy order to meet GMP housekeeping standards
4. Participate in validation processes	4.1. Validation procedures are followed to GMP requirements 4.2. Issues arising from validation are raised with designated personnel 4.3. Validation procedures are documented to meet GMP

ELEMENT	PERFORMANCE CRITERIA
	requirements
5. Take corrective action in response to GMP non-compliance	<p>5.1. Processes, practices or conditions which could result in non-compliance with GMP are identified and reported according to workplace reporting requirements</p> <p>5.2. Corrective action is taken in accordance within level of responsibility</p> <p>5.3. GMP issues are raised with designated personnel</p>
6. Maintain and improve GMP in the work area	<p>6.1. Processes or conditions which could result in non-conformance with GMP are identified, reported and corrected within level of responsibility</p> <p>6.2. Matters raised relating to GMP are promptly resolved and/or referred to appropriate personnel</p> <p>6.3. Effectiveness of control measures are monitored within level of responsibility</p> <p>6.4. Others in the work area are advised of GMP matters relevant to work role</p> <p>6.5. Workplace records and documents are maintained in accordance with workplace procedures and GMP requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- communicate information on GMP requirements to others in the work area, including demonstration of two-way communication, such as active listening and constructive response to feedback
- access and use document management systems
- model personal conduct and work activities to meet requirements of GMP
- monitor that data is recorded to meet GMP recording requirements within level of responsibility
- provide guidance and support to others in the work area to implement GMP responsibilities within level of responsibility
- determine action required to respond to GMP non-compliance within level of responsibility
- participate in improvement processes, such as investigating actual and potential GMP non-compliance
- participate in and/or review practices and procedures to prevent or minimise the likelihood of unacceptable performance
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the role of GMP in preventing contamination, its relationship to legal requirements of pharmaceutical manufacturers and potential implications of non-compliance
- GMP arrangements in the workplace, including relevant GMP codes of practice and related workplace policies and procedures to implement these responsibilities
- role of effective communication and consultation processes
- workplace training and development system and responsibilities
- role of quality assurance and related system components and activities in GMP
- procedures followed to investigate contamination events and performance improvement processes
- personal clothing and footwear requirements for working in and/or moving between work areas
- personal clothing use, storage and disposal requirements
- current technical and process knowledge required to monitor GMP and participate in investigating GMP non-compliance within level of responsibility, including common microbiological, physical and chemical contaminants, conditions under which types of contamination, e.g. cross-contamination, are likely to occur, related

REQUIRED SKILLS AND KNOWLEDGE

- control methods and validation procedures and responsibilities
- control methods and procedures used in the work area to maintain GMP, including the purpose of control, the consequences if not controlled and the method of control where relevant
- methods used to monitor process control, purpose and requirements of validation procedures and purpose of equipment calibration
- recall and traceability procedures relevant to work area
- line clearance procedures and responsibilities
- properties, handling and storage requirements of raw materials, packaging components and final product handled and used in the work area
- standards for materials, equipment and utensils used in the work area
- procedures for responding to out-of-specification or unacceptable performance/outcomes, including procedures for identifying and isolating or quarantining materials or product of unacceptable quality within level of responsibility
- documentation system and procedures, including record keeping to meet both company and legal requirements, procedures for developing and/or reviewing workplace procedures and document control systems used in the workplace and responsibilities for reporting and recording information
- housekeeping requirements and responsibilities relating to own work, and where relevant, use and storage of housekeeping/cleaning equipment
- waste collection, recycling, handling and disposal, including handling/disposal requirements for different types of waste, such as hazardous waste where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment may occur in a real or simulated workplace context. A simulated environment must provide access to a typical range of production equipment, procedures and related documentation, records and related resources to meet the requirements of the Therapeutic Goods Act.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>GMP is an ongoing and routine aspect of work responsibilities. Assessors should collect sufficient evidence that the skills and knowledge of this unit are routinely applied to the work environment.</p> <p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify the components of GMP and related roles and responsibilities as they relate to work role • provide a role model to others in the workplace to support implementation of GMP • participate in GMP processes within level of responsibility. Examples of these processes include validation, line clearance, equipment calibration, change management, maintenance of documentation. This would typically be undertaken in a team context.
<p>Context of and specific resources for assessment</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessment of this unit would typically involve questioning and workplace observation. It may involve additional collection of evidence from a range of sources, such as third party reports, workplace documentation relating to GMP, and real or simulated workplace contexts.</p>
<p>Method of assessment</p>	<p>This unit is a core requirement for all pharmaceutical operators at AQF 3 and could be assessed concurrently with other units relating to process improvement and supporting others, such as:</p> <ul style="list-style-type: none"> • FDFPPL3001A Participate in improvement processes • FDFPPL3003A Support and mentor individuals and

EVIDENCE GUIDE	
	<p>groups</p> <ul style="list-style-type: none">• FDFPPL3005A Participate in an audit process• FDFTEC3001A Participate in a HACCP team.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Work activities	Work activities are carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Unacceptable plant or equipment condition	<p>Unacceptable plant or equipment condition can include:</p> <ul style="list-style-type: none"> • damage to plant or equipment • failure of cleaning regime • equipment requiring calibration • signs of pest infestation
Validation	Typically validation is the responsibility of the quality department. A person at this level would be expected to understand the purpose and responsibilities for validation and may be required to participate in validation processes as part of a team
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant, Good Manufacturing Practice (GMP) codes • the Therapeutic Goods Act and other legislation and codes relevant to product and market • legislation relating to environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Quality assurance and related system components and activities	<p>Quality assurance and related system components and activities can include but is not limited to:</p> <ul style="list-style-type: none"> • process control • deviation investigation and analysis

RANGE STATEMENT

	<ul style="list-style-type: none"> • corrective and preventative action systems • sampling plans • change control • validation procedures • line clearance • system documentation requirements • audit processes
--	---

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH4001A Prepare and review workplace documentation to support Good Manufacturing Practice

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit of competency covers the skills and knowledge required by production/packaging line managers or supervisors to develop, review and manage workplace documentation to support Good Manufacturing Practice (GMP).</p> <p>This units targets content outlined in Chapter 4 of the Australian Code of Good Manufacturing Practice for Medicinal Products and should be read in conjunction with this document.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to people working in a supervisory or line management production/packaging role. Their responsibilities for document design, review and maintenance would typically require them to work in close consultation with others and focus on documentation relevant to their work area.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop and/or review workplace documentation to meet GMP requirements	1.1. Policies and master plans are identified to determine work area requirements 1.2. Workplace documentation is identified and reviewed to confirm GMP requirements are met 1.3. Procedures and records are developed and/or reviewed to confirm GMP requirements are met 1.4. Improvements to workplace documentation are identified and reported 1.5. Procedures to alter workplace documents are followed
2. Facilitate development and communication of workplace documentation	2.1. Workplace documentation is developed in consultation with relevant stakeholders to support GMP 2.2. Documentation is made available and clearly explained to relevant stakeholders 2.3. Training requirements are identified and addressed within level of responsibility

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- use workplace documentation, recording and reporting formats and software
- prepare workplace documentation in plain English and suited to purpose and audience
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- documentation requirements (as outlined in Chapter 4 of the Australian Code of Good Manufacturing Practice for Medicinal Products)
- document authorisation requirements and procedures and legal responsibilities of signatory
- document types to support workplace systems and related development and control systems, roles and responsibilities, including an understanding of system security and access levels
- procedures and responsibilities for altering documents and managing version control
- systems, methods and procedures for recording and storing data and authorised levels of access (to electronic systems)
- use of documentation including an understanding of the documents that can be used as evidence in audit processes
- recording and reporting requirements
- training and assessment arrangements and responsibilities

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment may occur in a real or simulated pharmaceutical or complementary medicine manufacturing workplace where the assessment environment provides access to workplace documentation and related document control and management systems that are typical of commercial manufacturing businesses and meet the requirements of the Therapeutic Goods Act. It will also provide a range of commercial manufacturing packaging equipment and activities typically used in a commercial manufacturing environment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • review workplace documentation to confirm that it meets GMP requirements. Documentation may relate to a specific work area (rather than the whole plant). The candidate is required to document their findings • develop, design or amend documentation to support GMP. For example, this could require the development of operating procedures. It may include reviewing and updating existing documentation or developing new documentation within required formats. The candidate must demonstrate application of document control procedures to submit or amend documents. They must also demonstrate that appropriate consultation was undertaken in the development process and the document changes are effectively communicated. This includes demonstrating an awareness of the link to related documents. Where training needs arise from the change, these must be identified together with recommendations for how they can be addressed • review completed GMP-related documents and records to ensure that GMP requirements are met.
<p>Context of and specific resources for assessment</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.</p>

EVIDENCE GUIDE	
	<p>Assessment of this unit would typically involve responding to 'what if' scenarios, answering questions and conducting workplace projects.</p> <p>Resources for assessment include:</p> <ul style="list-style-type: none"> • Australian Code of Good Manufacturing Practice for Medicinal Products • workplace documentation and related document control and management system • workplace personnel • real or simulated workplace context.
Method of assessment	<p>This unit is a core requirement for all pharmaceutical operators at AQF 4 and 5. This unit could be assessed concurrently with other units relating to problem solving and process improvement. Examples could be:</p> <ul style="list-style-type: none"> • FDFPH4002A Facilitate and monitor Good Manufacturing Practice • FDFPH4004A Participate in change control procedures • FDFPH4005A Participate in validation processes.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Workplace documentation

Workplace documentation may include but is not limited to:

- policies and master plans
- quality manual
- specifications
- certificates
- manufacturing formula
- processing and packaging instructions
- procedures
- records
- protocols (validation)
- reports

Documentation typically includes:

- written descriptions
- graphic display of information, including diagrams and photos
- flow charts

Information is typically stored and accessed electronically

Procedures and records

Information covered by procedures includes but is not limited to:

- receipt of starting and packaging material
- sampling
- testing
- release and rejection procedures
- validation
- equipment assembly and calibration
- maintenance, cleaning and sanitation
- personnel matters, including training and personal hygiene
- environmental monitoring

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pest control • complaints • recalls • returns • equipment operation <p>Records should include but are not limited to:</p> <ul style="list-style-type: none"> • batch records • equipment recording (as appropriate) • validations • calibrations • maintenance • cleaning or repair work, including details of when/who • operating log sheets • complaints
Stakeholders	<p>Stakeholders refer to process and technical experts and may include but are not limited to:</p> <ul style="list-style-type: none"> • operators • engineering department • quality assurance • area managers • related functions/personnel
Version control	<p>Version control includes:</p> <ul style="list-style-type: none"> • the maintenance of workplace documents to meet company and regulatory requirements

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH4002A Facilitate and monitor Good Manufacturing Practice

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency targets content outlined in Chapter 4 of the Australian Code of Good Manufacturing Practice for Medicinal Products and should be read in conjunction with this document. It covers the skills and knowledge required to facilitate and monitor Good Manufacturing Practice (GMP) in a production/packaging work area.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to people working in supervisory or line management production/packaging roles. This person would typically work within defined GMP programs and procedures. They contribute to the development of these programs as a team member and are responsible to oversee implementation in their work area.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to meet GMP requirements in the work area	1.1. Regulations, codes and guides relevant to the work area are identified 1.2. Workplace documentation relevant to work area activities is identified and reviewed to confirm that GMP requirements are met 1.3. The required facilities, materials, storage, equipment and personnel are confirmed and available 1.4. Operators who have the required competence to perform production/packaging activities to company and GMP standards are identified 1.5. Line clearance procedures are carried out 1.6. Critical processes are validated according to validation requirements 1.7. Procedures to eliminate or control the risk of cross-contamination are followed
2. Monitor the observance of GMP in the work area	2.1. Work practices conform to GMP requirements 2.2. In-process and environmental monitoring is carried out and recorded as required by GMP 2.3. Personal hygiene and conduct of personnel in the work area meets GMP requirements 2.4. Personnel movement between work areas complies with entry and exit procedures 2.5. GMP-related data is recorded to meet workplace reporting requirements
3. Respond to failures or non-conformances	3.1. The scope of failures or non-conformances are defined 3.2. Procedures to follow in the event of a failure are documented 3.3. Failures are investigated to determine root causes 3.4. Risk assessment is conducted 3.5. Findings are reported to meet GMP requirements 3.6. Procedures are followed to implement and monitor corrective and preventative action
4. Complete work to meet GMP requirements	4.1. Processes are reviewed to ensure all procedures are complete 4.2. Line logs are reviewed to ensure documentation is complete 4.3. End-of-batch procedures are followed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- locate regulations, codes, guides and internal company documentation relevant to GMP and products/processes used in the work area
- use communication and document management systems to access and review relevant documents
- ensure that operators have the
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- legislative framework and structure, including the role of regulations, codes and guides
- corporate and personal responsibility and liability for maintaining GMP in the workplace
- the Pharmaceutical Inspection Co-operation Scheme (PICS) and related cross-recognition agreements
- the content covered by the Therapeutic Goods Act, relevant codes and guides
- sources of technical advice on test methods and critical limits
- regulatory mechanisms including audit processes
- the principles of quality management, quality assurance and quality control and the role of these activities in supporting GMP
- principles of risk management and related procedures
- system for raising and managing corrective and preventative actions
- specific requirements to be met by manufacturing and/or packaging activities in the work area to meet GMP requirements
- calibration programs and responsibilities
- procedures for reconciling materials and consumables and investigating discrepancies
- training system, including assessment methods and documentation
- purpose, procedure and responsibility for specific systems, programs and procedures to support GMP
- root cause analysis techniques
- workplace documentation and authorisation procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment may occur in a real or simulated pharmaceutical or complementary medicine manufacturing workplace where the assessment environment provides access to workplace documentation and document management systems related to GMP that are typical of commercial manufacturing businesses and meet the requirements of the Therapeutic Goods Act. It will also provide a range of commercial production/packaging equipment and activities typically used in a commercial manufacturing environment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of participation in a project team to develop or review systems and procedures to support GMP in a work area. This includes providing evidence that the candidate:</p> <ul style="list-style-type: none"> • provides documented evidence through use of workplace documentation and records to show that the work preparation, processing and completion meet GMP requirements • leads response to a failure or non-conformance in the work area. This must include conducting risk assessment, analysing root cause analysis, identifying corrective and preventive action and monitoring implementation. This aspect of assessment may be undertaken as part of a team.
<p>Context of and specific resources for assessment</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessment of this unit would typically involve responding to 'what if' scenarios, answering questions and conducting workplace projects.</p>
<p>Method of assessment</p>	<p>This unit is a core requirement for all pharmaceutical operators at AQF 4 and 5. It could be assessed concurrently with other units relating to problem solving</p>

EVIDENCE GUIDE	
	<p>and process improvement. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2015A Apply principles of statistical process control • FDFPH4001A Prepare and review workplace documentation to support Good Manufacturing Practice • FDFPH4003A Facilitate contamination control • FDFPH4004A Participate in change control procedures • FDFPH4005A Participate in validation processes • MSACMT450A Undertake process capability improvements.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Regulations, codes and guides

Relevant regulations, codes and guides include:

- Therapeutic Goods Act
- Therapeutic Goods Regulations
- Australian Code of Good Manufacturing Practice for Medicinal Products
- Therapeutic Goods Act guides to interpretation of legal requirements
- regulations, codes and guides related to other relevant international legislation (appropriate to product and market)
- company policies and guidelines

Workplace documentation

Workplace documentation relevant to work area activities includes:

- company policies and guidelines
- specifications
- manufacturing formulae
- processing and packaging instructions
- batch production and packaging records
- standard operating procedures (SOPs)
- occupational health and safety (OHS) information, including material safety data sheets (MSDS)

Work practices

Work is carried out according to:

- company policies and procedures
- legislative and licensing requirements, including therapeutic goods legislation, weights and measures and legislation relating to OHS, environmental management, equal opportunity and affirmative action, industrial awards and agreements

Sources of technical advice

Sources of technical advice include but are not limited to:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Therapeutic Goods Administration • British Pharmacopeia • European Pharmacopeia • US Pharmacopeia
Systems, programs and procedures to support GMP	<p>Systems, programs and procedures to support GMP includes but is not limited to:</p> <ul style="list-style-type: none"> • line clearance • cleaning and sanitation • process control • control of cross-contamination • failure investigation • change control • validation • record keeping and documentation management • release for sale • internal audits

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

FDFPH4003A Facilitate contamination control

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency targets content outlined in Chapter 4 of the Australian Code of Good Manufacturing Practice for Medicinal Products and should be read in conjunction with this document. It covers the skills and knowledge required to facilitate contamination control in a work area.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit provides an overview of the cleaning and sanitation systems, equipment and procedures used in a pharmaceutical workplace.</p> <p>This unit applies to people working in supervisory or line management production/packaging roles. This person would typically work within defined cleaning, sanitation, change control and validation programs and procedures. They need to be aware of the systems, equipment and procedures used and are responsible to oversee implementation in their work area.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Contamination risks and related control measures are identified and implemented to meet GMP requirements	1.1. Hazards that could present a contamination risk are identified by type, origin and product association 1.2. Hazards and related control measures, critical limits, monitoring and recording requirements are reviewed and meet GMP requirements 1.3. Control measures are verified or validated
2. Review systems and procedures used to control risk of cross contamination	2.1. Effective barriers and control systems to minimise risk of cross contamination are identified and meet GMP requirements 2.2. In-process and environmental monitoring occurs and is recorded as required by GMP 2.3. Cleaning procedures are validated according to validation procedures, roles and responsibilities 2.4. Line clearance checklists and procedures are followed in the work area 2.5. Personal hygiene and conduct of personnel in the work area meets GMP requirements 2.6. Operators have the required skills and knowledge required to support cleaning and sanitation and personal hygiene policies and procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- interpret and apply relevant legislation, codes, guidelines and technical standards
- use management systems to ensure that procedures are understood and implemented
- monitor that data is recorded to meet GMP recording requirements
- read and interpret equipment drawings, piping and instrumentation diagrams (P&IDs) and process flow charting
- read and interpret typical test results for in-process and environmental monitoring
- use communication and document management systems to access and review relevant documents
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- principles of workflow design to minimise risk of contamination
- facility and segregation requirements relevant to products produced

Basic microbiology

- microbiological limits, monitoring methods and reporting and recording formats and requirements

Sources of technical advice

- ventilation system requirements
- personal hygiene and clothing requirements including decontamination and laundering
- cleaning records and logs
- line clearance procedures, roles and responsibilities
- equipment status labelling
- cleaning requirements and levels related to dedicated production, campaign processing and multiple product processing

Storage requirements

- storage requirements of raw materials prior to use in manufacture, time limits and conditions of storage of finished product prior to packaging, and other

REQUIRED SKILLS AND KNOWLEDGE

requirements relevant to product range
--

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment may occur in a real or simulated pharmaceutical or complementary medicine manufacturing workplace where the assessment environment provides access to workplace documentation and document management systems related to controlling contamination that are typical of commercial manufacturing businesses and meet the requirements of the Therapeutic Goods Act. It will also provide a range of commercial manufacturing packaging equipment and activities typically used in a commercial manufacturing environment.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify legal, company and audit requirements of contamination control systems and conduct a system review to support audit readiness • demonstrate methods used to monitor consistent observance of contamination control.
<p>Context of and specific resources for assessment</p>	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessment of this unit would typically involve responding to 'what if' scenarios, answering questions and conducting workplace projects.</p> <p>Resources for assessment:</p> <ul style="list-style-type: none"> • copies of the relevant Act, regulations, codes and guides • workplace documentation relating to cleaning and sanitation • real or simulated workplace context.
<p>Method of assessment</p>	<p>This unit could be assessed concurrently with other units of competency relating to problem solving and process improvement. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2015A Apply principles of statistical process

EVIDENCE GUIDE	
	<p>control</p> <ul style="list-style-type: none"> • FDFPH4001A Prepare and review workplace documentation to support Good Manufacturing Practice • FDFPH4002A Facilitate and monitor Good Manufacturing Practice • FDFPH4004A Participate in change control procedures • FDFPH4005A Participate in validation processes • MSACMT450A Undertake process capability improvements
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Barriers and control systems

Barriers and control systems include but are not limited to:

- ventilation systems
- appropriate clothing
- area access restrictions and procedures
- cleaning and sanitation procedures
- environmental monitoring
- line clearance checklists
- personal hygiene and conduct
- pest prevention

Refer to the Australian Code of Good Manufacturing Practice for Medicinal Products

Codes, guidelines and technical standards

Codes, guidelines and technical standards includes:

- the Australian Code of Good Manufacturing Practice for Medicinal Products, Chapter 3 which outlines minimum requirements for design of pharmaceutical production facilities and equipment

Basic microbiology

Basic microbiology covers the ability to source information on:

- likely microbiological contaminants given product/packaging used
- origins
- growth rates
- transmission routes
- likely carriers
- control limits
- control methods

Sources of technical advice

Sources of technical advice include but are not limited to:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Therapeutic Goods Administration • British Pharmacopeia • European Pharmacopeia • US Pharmacopeia
Storage requirements	<p>Storage requirements may include but are not limited to:</p> <ul style="list-style-type: none"> • storage requirements of raw materials prior to use in manufacture • time limits and storage conditions for finished product prior to packaging • other requirements relevant to product range

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH4004A Participate in change control procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency targets content outlined in Chapter 4 of the Australian Code of Good Manufacturing Practice for Medicinal Products and should be read in conjunction with this document. It covers the skills and knowledge required to participate in change control procedures.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit provides an overview of the change management and validation procedures that form part of Good Manufacturing Practice (GMP).</p> <p>This unit applies to people working in supervisory or line management production/packaging roles. This person would typically work within defined change management and validation programs and procedures. They contribute to the development of these procedures as a team member and are responsible to ensure procedures are supported in the work area.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Participate in planning change	1.1. Regulations, codes and guides relevant to the work area are identified 1.2. Procedures, roles and responsibilities for managing change are identified 1.3. Risk assessment is conducted 1.4. Planning of change management is undertaken within level of responsibility 1.5. Workplace documentation affected by the change is identified and responsibilities for review are allocated within level of responsibility 1.6. Any training needs arising from change are identified and delivery method/s and responsibilities are determined 1.7. Validation and/or other relevant authorisation requirements and procedures are identified and followed
2. Participate in implementing change	2.1. Change is implemented according to the change management plan and occupational health and safety (OHS) procedures 2.2. Advice on change is communicated to all affected personnel 2.3. Relevant training is sourced 2.4. Workplace documentation is revised to reflect change requirements 2.5. Change is monitored and evaluated against established evaluation criteria 2.6. Any further adjustments or modifications are identified and implemented or reported according to change control procedure 2.7. Outcomes are documented and reported to meet change control requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- locate regulations, codes, guides and internal company documentation relevant to GMP and products/processes used in the work area
- participate in change control procedures
- apply communication and consultation skills to engage and consult with work areas and personnel affected by change
- ensure that related skills and knowledge requirements are addressed by the training system
- apply negotiation/issue resolution skills
- prepare workplace documentation in plain English and suited to purpose and audience
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- types of change that come within the scope of change control procedures
- change classification procedures and responsibilities
- principles of risk management and related procedures
- documentary evidence required to support change request
- change control procedures, roles and responsibilities
- workplace documentation including procedures for review, authorisation and control of documents
- training system including assessment methods and documentation
- validation system, procedures and responsibilities

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment may occur in a real or simulated pharmaceutical or complementary medicine manufacturing workplace where the assessment environment provides access to workplace documentation and document management systems related to change control that are typical of commercial manufacturing businesses and meet the requirements of the Therapeutic Goods Act. It will also provide a range of commercial manufacturing packaging equipment and activities typically used in a commercial manufacturing environment.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of participation in a project team to control change in a work area. This includes providing evidence that the candidate:

- identifies situations requiring change control for a given set of change scenarios
- participates in developing a change management plan
- develops a documented implementation plan to introduce change into a work area. This may be a sub-set of a larger change management plan
- leads the implementation of change in a work area. This includes reviewing relevant workplace documentation, ensuring that required training occurs, consulting with parties affected by change and negotiating any issues raised, monitoring and reporting on change and liaising with relevant departments/ personnel to ensure that authorisation and validation processes occur as required.

Context of and specific resources for assessment

Resources for assessment

- change request
- workplace documentation including procedures relating to change control
- real or simulated workplace context.

Method of assessment

This unit could be assessed concurrently with other units relating to problem solving and process improvement. Examples could be:

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • FDFOP2015A Apply principles of statistical process control • FDFPH4001A Prepare and review workplace documentation to support Good Manufacturing Practice • FDFPH4002A Facilitate and monitor Good Manufacturing Practice • FDFPH4003A Facilitate contamination control • FDFPH4005A Participate in validation processes • MSACMT450A Undertake process capability improvements.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Regulations, codes and guides	<p>Relevant regulations, codes and guides include:</p> <ul style="list-style-type: none"> • Therapeutic Goods Act • Therapeutic Goods Regulations • Australian Code of Good Manufacturing Practice for Medicinal Products • Therapeutic Goods Act guides to interpretation of legal requirements • regulations, codes and guides related to other relevant international legislation (appropriate to product and market) • company policies and guidelines
Change	<p>Change that must be controlled refers to any change that may affect product quality or reproducibility of the process. This may include but is not limited to change in:</p> <ul style="list-style-type: none"> • formulation • product component • method of production or testing • process environment (or site) • batch size • equipment
Change management	<p>Change management procedures and data requirements must meet the requirements of Change Management as outlined in Annex 15 of the Australian Code of Good Manufacturing Practice for Medicinal Products</p>
Workplace documentation	<p>Workplace documentation relevant to work area activities includes:</p> <ul style="list-style-type: none"> • company policies and procedures • specifications • manufacturing formulae • processing and packaging instructions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • scaling batch size up or down • batch production and packaging records • standard operating procedures (SOPs) • operating manuals • OHS information, including material safety data sheets (MSDS)
Authorisation requirements	Authorisation requirements reflect regulatory requirements and internal authorisation processes
Change management plan	<p>A change management plan includes steps or activities required to approve and implement the proposed change. Typically these steps will be described in a change control SOP. Depending on the significance/level of the change, this could include:</p> <ul style="list-style-type: none"> • process capability assessment • test methods • validation • liaison with regulator <p>It also includes:</p> <ul style="list-style-type: none"> • timelines • responsibilities, including sign-off/approval • verification of the effectiveness of change • OHS implications

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH4005A Participate in validation processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	The unit is targets content outlined in Annex 15 of the Australian Code of Good Manufacturing Practice for Medicinal Products and should be read in conjunction with this document. It covers the skills and knowledge required to participate in validation processes.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit provides an overview of validation processes used to support Good Manufacturing Practice (GMP) in the pharmaceutical sector.</p> <p>The unit covers the skills and knowledge required by production/packaging line managers or supervisors to participate in validation processes. This person would not typically have responsibility for validation but would require an understanding of the purpose, procedures and responsibilities for different types of validation.</p> <p>This unit applies to people working in a supervisory or line management role. Their involvement in validation would typically be as part of a multi-disciplinary team.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Participate in qualification processes for new or modified facilities, systems or equipment</p>	<p>1.1. Responsibilities and procedures for developing and implementing design qualification, installation qualification, operational qualification and performance qualification are identified</p> <p>1.2. Qualification processes and documentation are developed or reviewed within level of responsibility</p> <p>1.3. Workplace procedures are documented to support operational requirements</p>
<p>2. Participate in validation processes for new or modified facilities, systems or equipment</p>	<p>2.1. Validation requirements in the work area are identified</p> <p>2.2. The validation protocol is followed to support validation activities in the work area</p> <p>2.3. Data is collected, analysed and reported to meet GMP requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- apply principles of risk management to identify critical facilities, systems and equipment
- identify and interpret validation documentation relating to qualification and validation requirements for a work area
- participate in qualification and validation procedures within level of responsibility
- identify and manage the impact of qualification and validation procedures on related processes or work areas/personnel within level of responsibility
- liaise with other relevant departments/functions to coordinate and schedule validation processes
- develop documentation to support qualification and validation according to required formats and within level of responsibility
- ensure that operators in the work area have the
- prepare workplace documentation in plain English and suited to purpose and audience
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- principles and purpose of qualification and related procedures and responsibilities
- principles and purpose of validation and related procedures and responsibilities
- purpose and application of prospective, concurrent and retrospective validation
- data collection, analysis and reporting requirements
- scope, application and timing of validation including any relevant circumstances that could trigger the need to validate or re-validate or justify not carrying out a validation process prior to production starting
- relationship between validation and change control
- equipment design drawings and process flow charting
- relevant investigation methods including process capability and root cause analysis
- recording and reporting requirements
- training and assessment arrangements and responsibilities
- workplace documentation and authorisation procedures

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment may occur in a real or simulated pharmaceutical or complementary medicine manufacturing workplace where the assessment environment provides access to workplace documentation relating to qualification and validation processes that are typical of commercial manufacturing businesses and meet the requirements of the Therapeutic Goods Act. It will also provide a range of commercial production/packaging equipment and activities typically used in a commercial manufacturing environment. Qualification processes may be simulated to allow a walk through of the process.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of participation in a team responsible for validation processes. This includes providing evidence developed by the candidate to:

- review the qualification and validation protocols to assess implications for a work area and related departments/functions
- participate in qualification procedures - design qualification, installation qualification, operational qualification, and/or performance qualification

For example, this could include conducting trials in the work area as part of performance qualification in a work area. The assessment activity requires use and/or development of checklists and tools in required formats to carry out qualification as part of a project team. It also includes monitoring and reporting on outcomes.

Context of and specific resources for assessment

Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.

Assessment of this unit would typically involve responding to 'what if' scenarios, answering questions and conducting workplace projects

Resources for assessment:

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • copies of the relevant Act, regulations, codes and guides • workplace documentation including procedures relating to qualification and validation • real or simulated workplace context.
Method of assessment	<p>This unit could be assessed concurrently with other units relating to problem solving and process improvement. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2015A Apply principles of statistical process control • FDFPH4001A Prepare and review workplace documentation to support Good Manufacturing Practice • FDFPH4002A Facilitate and monitor Good Manufacturing Practice • FDFPH4003A Facilitate contamination control • FDFPH4004A Participate in change control procedures • MSACMT450A Undertake process capability improvements.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Design qualification

Design requirements of facilities and equipment must meet those outlined in Australian Code of Good Manufacturing Practice for Medicinal Products, Chapter 3

Installation qualification

Installation qualification includes but is not limited to:

- checking of equipment, piping, instrumentation and services installation checked against current engineering drawings and specifications
- piping and instrumentation diagrams (P&IDs), operating manuals and other supplier information relating to operation and maintenance
- calibration requirements
- cleaning and sanitation inspection requirements
- safety issues
- environmental issues

Operational qualification

Operational qualification includes but is not limited to:

- tests of processes, systems and equipment to confirm that functioning meets agreed criteria within operating conditions
- calibration plans
- preventative maintenance plans
- operating, cleaning and sanitation operating procedures
- training programs and schedules
- recording requirements

Performance qualification

Performance qualification may include but is not limited to:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • tests, using production materials, qualified substitutes or simulated product, that have been developed from knowledge of the process, facilities, systems or equipment • tests to include a condition or set of conditions encompassing upper and lower operating limits
Validation requirements	<p>Validation requirements include but are not limited to:</p> <ul style="list-style-type: none"> • process validation • packaging validation • cleaning validation • calibration validation • test method validation • validation of computerised systems • re-validation of in-use processes
Validation protocol	<p>A validation protocol includes but is not limited to:</p> <ul style="list-style-type: none"> • a short description of the process • summary of the critical step/s being investigated • list of equipment/facilities to be used (including measuring/monitoring equipment) together with its calibration status • finished product specifications for release • list of analytical methods, as appropriate • proposed in-process controls with acceptance criteria • additional testing to be carried out, with acceptance criteria and analytical validation, as appropriate • sampling plan • methods for recording and evaluating results • roles and responsibilities • proposed timetable
Validation documentation	<p>Documentation may include but is not limited to:</p> <ul style="list-style-type: none"> • validation master plan • protocols • reports • operating procedures and work instructions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • occupational health and safety (OHS) and environmental requirements • manufacturers' specifications

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPH4006A Respond to non-conformance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to respond to non-conformance within level of authority and consistent with legal requirements within the pharmaceutical sector.
------------------------	---

Application of the Unit

Application of the unit	This unit can apply to people working in a supervisory or line management production role. They would typically work as part of a team responsible for investigating causes and controls to prevent recurrence of non-conformance. Typical applications of this unit would include responding to deviation and incident reporting results and may include participation in responding to customer complaints, product recalls and audit findings. Responding to non-conformance is typically within the parameters of established policies, plans and procedures.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify non-conformance	<p>1.1. Workplace systems, reports and operating parameters are monitored to identify non-conformance</p> <p>1.2. Nature of non-conformance is identified and described</p> <p>1.3. Corrective and preventative action and reporting procedures appropriate to nature of non-conformance are followed</p>
2. Identify causes of non-conformance	<p>2.1. Workplace systems are used to investigate possible causes of non-conformance</p> <p>2.2. Risk assessment is conducted</p>
3. Review processes to minimise the risk of recurrence	<p>3.1. Solutions are identified and assessed to eliminate or minimise the risk of recurrence</p> <p>3.2. An implementation plan is developed</p> <p>3.3. Workplace documentation is developed or reviewed to support implementation</p> <p>3.4. Consultative mechanisms are established and/or reviewed to support continuous improvement and communicate information</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify systems under which non-conformance may be raised, including the provisions of the Therapeutic Goods Act as it relates to systems (e.g. customer complaints, product recalls and auditing)
- identify relevant company policies and procedures relating to responding to non-conformance and confirm level of authority and responsibility for participating in these procedures
- identify the components of the management system, including information recording systems (such as those to support traceability), identification of personnel responsible for assessing information and determining appropriate action, procedures to be followed in the event of a non-conformance, change management requirements and definitions of roles and levels of responsibility
- participate in the investigation of causes and review of arrangements and procedures in response to a non-conformance, such as reviewing responses to previous incidents to assess effectiveness and/or developing recommendations on appropriate procedures
- identify and/or develop the appropriate communication systems and channels for consulting with people affected by any proposed changes
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- legal requirements relating to management of non-conformance
- systems and responsibilities for identifying, investigating and responding to non-conformance
- consultation and communication methods required to investigate possible causes and communicate changed practices and procedures
- change management procedures and responsibilities, including the role of corrective and preventative actions
- procedures for reviewing, amending and validation
- information systems, technologies and software to access and analyse information
- problem solving methods

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment may occur in a real or simulated pharmaceutical or complementary medicine manufacturing workplace where the assessment environment provides access to workplace documentation including production records and data management systems related to managing non-conformance that are typical of commercial manufacturing businesses and meet the requirements of the Therapeutic Goods Act. It will also provide access to workplace policies and procedures to support the management of non-conformance to meet the requirements of the Therapeutic Goods Act.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of participation in a team responsible for responding to deviation and non-conformance. This includes providing evidence developed by the candidate to:

- identify deviation
- identify and determine the nature of non-conformance
- implement required corrective action and reporting
- investigate the causes of a non-conformance
- identify changes to company systems and procedures required to minimise the risk of recurrence
- follow procedures to participate in proposing changes
- develop and implement required preventative action.

Context of and specific resources for assessment

Assessors must be satisfied that the person can consistently perform the unit as a whole, including all elements, performance criteria, and required skills and knowledge. A holistic approach should be taken to the assessment.

Assessment of this unit would typically involve responding to 'what if' scenarios, answering questions and conducting workplace projects.

Resources for assessment

- copies of the relevant Act, regulations, codes and guides

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • workplace documentation relating to responding to non-conformance • real or simulated workplace context.
Method of assessment	<p>This unit could be assessed concurrently with other units relating to problem solving and process improvement. Examples could be:</p> <ul style="list-style-type: none"> • FDFPH4001A Prepare and review workplace documentation to support Good Manufacturing Practice • FDFPPL4004A Optimise a work process • MSACMC410A Lead change in a manufacturing environment • MSACMT450A Undertake process capability improvements.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Non-conformance	Non-conformance may be assessed against policies, procedures, specifications and audit requirements
Implementation plan	<p>An implementation plan includes but is not limited to:</p> <ul style="list-style-type: none"> • allocation of responsibilities and roles • establishing and negotiating timelines and resources • documentation review • appropriate authorisation • identification of training/skill development requirements
Legal requirements	Legal requirements are those prescribed in the Therapeutic Goods Act and other relevant legislation, regulations and codes (relating to product and markets)
Systems	<p>Systems and responsibilities for identifying, investigating and responding to non-conformance can include but are not limited to:</p> <ul style="list-style-type: none"> • corrective and preventative action • customer complaints • product recall • audits (internal and external)

Unit Sector(s)

Unit sector	Pharmaceutical manufacturing
--------------------	------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFO2001A Operate a dicing, stripping or mincing process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down product dicing, stripping or mincing process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a poultry production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of dicing, stripping or mincing equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out unit FDFOP2011A Conduct routine maintenance should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the dicing/stripping and mincing equipment and process for operation</p>	<p>1.1. Materials are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are fitted and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the dicing/stripping and mincing process</p>	<p>2.1. The process is started and operated according to workplace procedures</p> <p>2.2. Equipment is monitored to identify variation in operating conditions</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that diced/stripped or minced product meets specification</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the dicing/stripping and mincing process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify dicing/stripping and mincing process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for dicing/stripping and mincing process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust dicing/stripping process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - product flow rate
 - collection bins, and removing as required
 - equipment performance
- start, operate, monitor and adjust mincing process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - product flow rate
 - sequence of product and ingredient addition is to production specifications
 - cutting/mixing times
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take dicing/stripping and mincing process and related equipment off line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as

REQUIRED SKILLS AND KNOWLEDGE

specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce

Required knowledge***Knowledge of:***

- purpose and basic principles of the dicing/stripping and mincing process, including temperature generated by the process and effect on product
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the dicing, stripping and mincing process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the dicing, stripping and mincing process
- quality requirements of materials suitable for processing and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the dicing/stripping and mincing process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the dicing/stripping and mincing process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- product/process changeover procedures and responsibilities
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the dicing/stripping and mincing process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for dicing, stripping or mincing
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- dicing/stripping and mincing process and related equipment and services
- materials to be diced/stripped and minced
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> standard operating procedures (SOPs) specifications production schedules and instructions manufacturers' advice standard forms and reports
Production equipment	<p>Production equipment may include:</p> <ul style="list-style-type: none"> dicing/stripping or mincing equipment and tubs
Materials	<p>Materials typically include:</p> <ul style="list-style-type: none"> raw product free of bones or skin and may include additives/seasonings
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT

Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • compressed and instrumentation air
-----------------	--

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPO2002A Operate an evisceration process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down the evisceration process to deliver the carcass ready for chilling.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a poultry production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of evisceration equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>Where an operator is involved in backing up automated evisceration processes but is not required to set up or adjust equipment, refer to FDFOP1006A Monitor process operation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the evisceration equipment and process for operation	1.1. Carcasses are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Evisceration equipment is adjusted to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Monitor evisceration process operation	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Viscera is removed to specification 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted in accordance with workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the evisceration process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for process requirements, ensuring spray jets are operating and positioned correctly, positioning waste product bins as required, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- start, operate, monitor and adjust evisceration process equipment to achieve required outcomes, including conducting inspections as required to confirm viscera is removed to specification and adjusting equipment as required, as well as ensuring:
 - clean removal of parts, such as neck flaps and feet as required
 - vent/cloacae is opened and removed minimising faecal contamination
 - intestinal package is removed with lungs and liver undamaged and visible
 - neck is broken and/or removed at required length
 - cavity is empty at final inspection point
 - carcass is washed and clean ready for chilling
- monitor carcass quality, such as inspecting for:
 - faecal contamination/stains
 - broken bones
 - flesh damage/dicolouration/red spotting/marks
 - size
- monitor supply and flow of carcasses to and from the evisceration process
- pace evisceration to complete timely processing of birds from kill area
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take evisceration process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate procedures to alter process for bird size/type
- complete workplace records as required

REQUIRED SKILLS AND KNOWLEDGE

- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the evisceration process, such as the internal organs of birds, package removal requirements and consequences of poor removal processes
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the effect of each stage of the evisceration process on the quality of the end product
- quality characteristics to be achieved by each stage of the evisceration process
- the effect of variation in carcass condition/age on evisceration process and outcomes
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the evisceration process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the evisceration process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the use of protective clothing, such as armguards and mesh gloves, and the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the evisceration process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- adjustments required to take account of different bird size/type
- procedures and responsibility for reporting production and performance information

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• environmental issues and controls relevant to the evisceration process, including waste/rework collection and handling procedures related to the process• basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for evisceration • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • evisceration process and related equipment and services • carcasses • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment• FDFOP2011A Conduct routine maintenance• FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Stages and equipment	<p>Stages and equipment in evisceration may include:</p> <ul style="list-style-type: none"> • vent openers/slitters • viscera/package removal • cropper • neck cracker • neck flap removal • foot removal • carcass washing • conveyor systems
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • vacuum • water • instrumentation air

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPO2003A Grade carcass

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to identify and grade carcass quality for further processing or packing.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a poultry production environment. It typically targets the production worker responsible for grading carcasses.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the grading process for operation	1.1. Washed and chilled carcasses are confirmed and available to meet operating requirements
2. Inspect and grade carcasses	2.1. Carcasses are inspected and graded to workplace quality specifications 2.2. Out-of-specification product is identified, rectified and/or reported 2.3. The work area is maintained according to housekeeping standards 2.4. Work is conducted according to workplace environmental guidelines 2.5. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify grading process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- inspect and grade birds, including checking:
 - neck trim
 - bruised/damaged birds
 - torn skin/muscle
 - presence of feathers
 - size
 - broken bones
 - discolouration
 - bile/faecal stains
 - moisture retention levels
- monitor supply and flow of carcasses to and from the grading process
- take corrective action in response to out-of-specification results
- locate emergency stop functions on equipment as required
- follow isolation and lock out/tag out procedures as required to take grading process off-line in preparation for cleaning and/or maintenance, within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose of the grading and weighing process, including grading criteria and specifications at each level and the uses of product at each grade
- common types of damage or out-of-specification conditions and likely causes, including damage likely to be caused by poor handling of the carcass
- the flow of the grading process and the effect of outputs on downstream processes
- methods used to grade carcasses, including visual inspection and other methods

REQUIRED SKILLS AND KNOWLEDGE

- further tests to support the grading process
- contamination/food safety risks associated with the grading process and related control measures
- occupational health and safety (OHS) hazards and controls
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the grading process, including waste collection and handling procedures related to the process

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct visual examination of carcasses to assess quality • decide grade of carcass • identify out of specification carcasses • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • production schedule/batch instructions • specifications, control points and processing parameters • weighing and grading process and related equipment and services • carcasses to be graded • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the work role.</p>

EVIDENCE GUIDE

Guidance information for assessment

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Grading related	<p>Grading related equipment typically includes:</p> <ul style="list-style-type: none"> • conveyor systems
Grading	Grading could apply in any section where product is handled

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFPO2004A Harvest edible offal

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to sort, harvest and clean edible offal.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a poultry production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of edible offal harvesting equipment and processes.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the harvesting equipment and process for operation	1.1. Product is transferred and available to meet production requirements 1.2. Equipment is checked and ready for use 1.3. Pre-start checks are carried out as required by workplace requirements
2. Harvest and sort edible offal	2.1. Edible offal is identified 2.2. Offal is separated, sorted and collected to meet production requirements 2.3. Offal of unacceptable quality is identified and set aside 2.4. The work area is maintained according to housekeeping standards 2.5. Work is conducted according to workplace environmental guidelines
3. Shut down the process	3.1. Edible offal and waste is collected and handled/removed as required 3.2. Process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify harvesting and cleaning process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition (e.g. conveyor belts) to identify any signs of wear, selecting appropriate settings, cancelling isolation or lockouts as required, confirming that work surfaces and related equipment are clean, and identifying when blades need to be changed in the giblet machine
- start, operate, monitor and adjust harvesting and cleaning process equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification
- inspect quality of edible offal, such as inspecting for:
 - giblet colour and fat levels
 - presence of diseased or damaged organs
 - bile stain
- identify and remove unacceptable product according to workplace quality standards
- monitor supply and flow of materials to and from the harvesting and cleaning process
- sort, collect, recycle or dispose of inedible offal and waste according to workplace procedure
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take harvesting and cleaning process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose and basic principles of the harvesting and cleaning process, including the structure and internal organs of poultry to identify, separate and remove edible offal
- contamination that can occur when offal is not correctly removed
- basic operating principles of equipment, such as main equipment components, their purpose and operating capacities, and the status and purpose of guards
- the flow of the harvesting process and the effect of outputs on downstream processes
- quality standards for types of edible offal collected
- procedures for handling/recycling and/or disposing of downgraded product
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the harvesting process, such as inspecting, measuring and testing as required by the process
- inspection points (control points) in the harvesting and cleaning process and the related procedures and recording requirements
- contamination/food safety risks associated with the harvesting process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the harvesting and cleaning process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the harvesting process, including waste/rework collection and handling procedures related to the process
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for harvesting edible offal • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • edible offal specifications, control points and processing parameters • quality parameters for grading/downgrading product • offal harvesting, cleaning and washing equipment, accessories and services • offal to be harvested • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Production equipment	<p>Production equipment may include:</p> <ul style="list-style-type: none"> • offal harvesting and cleaning equipment • bins • augers • conveyors
Sorting process	<p>The sorting process may be carried out:</p> <ul style="list-style-type: none"> • manually and/or using manual backup of automated processes
Edible offal	<p>Edible offal may include:</p> <ul style="list-style-type: none"> • giblets • livers • hearts

RANGE STATEMENT	
	<ul style="list-style-type: none"> • feet and necks as required
Inspection/monitoring	Inspection/monitoring is: <ul style="list-style-type: none"> • typically visual to confirm appearance of product
Shutdown procedures	Shutdown procedures may include: <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPO2005A Operate a marinade injecting process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a marinade injection process.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a poultry production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of marinade injecting equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare the marinade injection equipment and process for operation</p>	<p>1.1. Carcasses and marinade are confirmed and available to meet operating requirements</p> <p>1.2. Cleaning and maintenance requirements and status are identified and confirmed</p> <p>1.3. Machine components and related attachments are inspected and adjusted to meet operating requirements</p> <p>1.4. Processing/operating parameters are entered as required to meet safety and production requirements</p> <p>1.5. Equipment performance is checked and adjusted as required</p> <p>1.6. Pre-start checks are carried out as required by workplace requirements</p>
<p>2. Operate and monitor the marinade injection process</p>	<p>2.1. Marinade is prepared and loaded to meet production requirements</p> <p>2.2. The process is started and operated according to workplace procedures</p> <p>2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements</p> <p>2.4. The process is monitored to confirm that specifications are met</p> <p>2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification</p> <p>2.6. The work area is maintained according to housekeeping standards</p> <p>2.7. Work is conducted according to workplace environmental guidelines</p> <p>2.8. Workplace records are maintained according to workplace recording requirements</p>
<p>3. Shut down the marinade injection process</p>	<p>3.1. The appropriate shutdown procedure is identified</p> <p>3.2. The process is shut down according to workplace procedures</p> <p>3.3. Maintenance requirements are identified and reported according to workplace reporting requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify marinade injection process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary marinade ingredients, whole birds, materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify that needles are all in place and not broken or bent, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for marinade injection process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational.
- start, operate, monitor and adjust marinade injection process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - pump operating parameters (speed/pressure on variable speed pumps)
 - conveyor speed
 - marinade level and temperature
 - needle position
- monitor supply and flow of marinade and birds to and from the marinade injection process
- take corrective action in response to out-of-specification results, including flushing of needles to clear blockages, within level of responsibility
- demonstrate procedures to adjust process equipment for bird size/type
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take marinade injection process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

REQUIRED SKILLS AND KNOWLEDGE

- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the marinade injection process
- basic operating principles of equipment, such as main equipment components, including pumps and needle bed, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- the effect of marinade injection process on the quality of end product
- the flow of the marinade injection process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the marinade injection process
- quality requirements of marinade and bird carcasses and effect of variation on process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the marinade injection process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the marinade injection process and the related procedures and recording requirements
- contamination/food safety risks associated with the marinade injection process and related control measures, including equipment checks required and traceability procedures to be followed where a broken or damaged needle is identified
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- adjustment/changeover procedures to take account of different bird size/type
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the marinade injection process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for marinade injecting process • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • marinade preparation and injection and conveying process and related equipment and services • birds to be processed and marinade premix • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Production equipment	<p>Production equipment may include:</p> <ul style="list-style-type: none"> • marinade mix tank • pump • needle injection equipment
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples

RANGE STATEMENT

	include: <ul style="list-style-type: none"> • power • water • instrumentation air
--	--

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFO2006A Operate a washing and chilling process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down spin and/or air chilling equipment used to wash and chill carcasses.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a poultry production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of washing and chilling equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance should be considered.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the chilling equipment and process for operation	1.1. Carcasses are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Processing/operating parameters are entered as required to meet safety and production requirements 1.4. Equipment performance is checked and adjusted as required 1.5. Pre-start checks are carried out as required by workplace requirements
2. Operate and monitor the chilling process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that specifications are met 2.5. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.6. The work area is maintained according to housekeeping standards 2.7. Work is conducted according to workplace environmental guidelines 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the chilling process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify chilling process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for chilling process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- confirm:
 - water tank levels
 - operation of ice conveyor
 - operation of pumps and chlorine dosing equipment
- start, operate, monitor and adjust chilling process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
 - water overflow rates
 - chlorine level
 - chiller/water temperature
 - air temperature (air chillers)
 - washer agitation
 - carcass immersion time
 - deep muscle temperature
 - and ensuring carcasses are shackled securely as they come out of the spin chiller
- monitor supply and flow of product and services to and from the chilling process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take chilling process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate changeover procedures to adjust for bird size
- complete workplace records as required

REQUIRED SKILLS AND KNOWLEDGE

- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance according to enterprise procedures

clean and sanitise equipment according to enterprise procedures

- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of the chilling process, including the purpose of both washing and chilling as it affects bacterial load
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the effect of each stage on the quality of end product, including the relationship between immersion time, water temperature, and agitation on the amount of water absorbed by the carcass and on washing efficiency
- the flow of the chilling process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the chilling process
- quality requirements of carcasses and materials and effect of variation on chilling process performance
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters, such as specifications for temperature range of washers and chillers
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the chilling process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the chilling process and the related procedures and recording requirements, including procedures for measuring deep muscle temperature
- changeover procedures
- contamination/food safety risks associated with the chilling process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the chilling process and

REQUIRED SKILLS AND KNOWLEDGE

- workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the chilling process, including waste/rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with chilling process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for washing and chilling
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule/batch instructions
- specifications, control points and processing parameters
- washing and chilling and conveying process, related equipment and services
- carcasses to be washed and chilled
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Production equipment	<p>Production equipment may include:</p> <ul style="list-style-type: none"> • washers • spin or air chillers • pumps and dosing equipment • conveyor systems
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

RANGE STATEMENT

Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> • power • water • refrigerant • instrumentation air
-----------------	---

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPO2007A Operate the bird receival and hanging process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to receive and hang live poultry.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a poultry production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of stunning, killing and defeathering equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be considered.</p> <p>Where an operator is involved in backing up automated stunning, killing and defeathering processes but is not required to set up or adjust equipment, refer to FDFOP1006A Monitor process operation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the receiving and hanging equipment and process for operation	1.1. Live birds are confirmed and available to meet operating requirements 1.2. Equipment is adjusted to meet safety and operating requirements 1.3. Pre-start checks are carried out as required by workplace requirements
2. Receive and hang birds	2.1. Birds are inspected and confirmed against load documentation 2.2. Conveyors and related equipment are operated to meet unloading requirements 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. Bird condition is inspected and unacceptable birds are removed 2.5. Birds are hung according to workplace procedures 2.6. Work is conducted according to workplace environmental guidelines 2.7. Workplace records are maintained according to workplace recording requirements
3. Shut down the receiving and hanging process	3.1. The receipt conveyors and related equipment are shut down according to workplace procedures 3.2. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify receipt and hanging process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary birds and services
- conduct pre-start checks, such as inspecting condition of conveyors and shackles to identify any signs of wear, selecting appropriate settings, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for receipt, and hanging process requirement
- conduct checks to confirm and maintain the receipt environment, such as:
 - checking airflow in receipt area
 - checking operation of related equipment, such as dust extractors
 - checking humidity gauges/ambient temperature
 - confirming that birds are under minimal stress
- unload birds and confirm condition, including removing any dead or poorly conditioned birds
- retrieve escaped birds, causing minimal stress
- hang birds according to workplace procedure
- demonstrate procedures for adjusting equipment for different bird sizes/types as appropriate
- sequence receipt and hanging activities to minimise time between receipt and processing
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- check and confirm weighbridge documentation against order according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- basic principles of bird handling, including humane treatment of birds, conditions that stress birds and environmental design features to minimise stress, such as airflow, humidity and temperature controls
- RSPCA standards relating to bird handling
- basic operating principles of equipment, such as conveyor systems and related load shifting equipment and other equipment used, including dust extractors, and the purpose and location of sensors and related feedback instrumentation
- acceptable time from bird receipt to bird processing and consequences of delays in processing on product quality
- the flow of the receipt and hanging process on further processing or packing stages to produce a final product
- changeover requirements to adjust for bird size/type
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the receipt and hanging process, such as monitoring that the receipt process is paced to deliver birds to processing and/or packing areas without delay, bird condition is acceptable, the receipt environment is appropriate and birds are shackled correctly
- consequences of poor receipt and hanging on product quality
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the receipt, and hanging process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the receipt, and hanging process, including procedures for disposing of dead or unfit birds
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- receipt documentation and related load identification procedures where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for receiving and hanging birds • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • receipt, and hanging process and related equipment and services • birds • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples may be:</p> <ul style="list-style-type: none"> • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, RSPCA standards, regulatory and licensing requirements, legislative requirements; and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • delivery documentation • production schedules • manufacturers' advice • standard forms and reports
Production equipment	<p>Production equipment may include:</p> <ul style="list-style-type: none"> • bird holding/storage facilities • unloading equipment • conveyors • dust extractors • bird shackling systems
Birds	<p>Birds may be received in:</p> <ul style="list-style-type: none"> • multi-layered modules or crates
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems

RANGE STATEMENT	
Shutdown procedures	Shutdown procedures may include <ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	Services may need to be confirmed. These depend on the nature of the process. Typical examples include: <ul style="list-style-type: none"> • power • water

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFO2008A Operate a stunning, killing and defeathering process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down a process to stun, kill and defeather birds.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a poultry production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of stunning, killing and defeathering equipment and processes.</p> <p>When batch or product changeover procedures are part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out unit FDFOP2011A Conduct routine maintenance should be considered.</p> <p>Where an operator is involved in backing up automated stunning, killing and defeathering processes but is not required to set up or adjust equipment, use FDFOP1006A Monitor process operation</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the stun, kill and defeather equipment and process for operation	1.1. Birds are confirmed and available to meet operating requirements 1.2. Cleaning and maintenance requirements and status are identified and confirmed 1.3. Machine components and related attachments are fitted and adjusted to meet safety and operating requirements 1.4. Operating parameters are entered as required to meet bird size and type 1.5. Equipment performance is checked and adjusted as required 1.6. Pre-start checks are carried out as required by workplace requirements
2. Monitor each stage of the stun, kill and defeather process	2.1. The process is started and operated according to workplace procedures 2.2. Equipment is monitored to identify variation in operating conditions 2.3. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.4. The process is monitored to confirm that birds are stunned, killed and bled to specification 2.5. Feathers and heads are removed to specification 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. Work is conducted according to workplace environmental guidelines 2.8. The work area is maintained according to housekeeping standards 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the stun, kill and defeather process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify stun, kill and defeather process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings according to bird size/type, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational.
- conduct inspections, such as confirming:
 - comfort bar and guides are correctly positioned
 - blades are sharp, rotating and correctly positioned for bird size
 - scald tank temperatures are within range
 - condition of fingers on defeatherer/plucker
 - defeatherer/plucker and head removal equipment are adjusted for bird size/type
- start, operate, monitor and adjust the stun, kill and defeather process equipment to achieve required outcomes, such as monitoring control points and conducting inspections as required to confirm process remains within specification, as well as monitoring:
 - bleeding time
 - scald water temperature and immersion time
 - line speed
 - feather removal
 - angle and height head removal
- monitor supply and flow of materials to and from the stun, kill and defeather process to the evisceration process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- purpose and basic principles of each part of the stun, kill and defeather process
- basic operating principles of equipment, such as main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the effect of each stage on the quality of end product, including the relationship between the bleeding stage and final product quality and between scald temperature/immersion time on the defeathering stage
- the stun, kill and defeather process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the stun, kill and defeather process
- operating requirements and parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the stun, kill and defeather process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination/food safety risks associated with the stun, kill and defeather process and related control measures
- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- requirements of different shutdowns as appropriate to the stun, kill and defeather process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the stun, kill and defeather process, such as systems in place to collect, treat and dispose of waste and by-products (e.g. blood, water, feathers and bird parts)
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• routine maintenance procedures where relevant• cleaning and sanitation procedures where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- conduct pre-start checks on machinery used for stunning, killing and defeathering
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures to work practices.

Context of and specific resources for assessment

Assessment must occur in the workplace where the assessee has access to:

- personal protective clothing and equipment
- work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- production schedule
- specifications, control points and processing parameters
- stunning, killing and defeathering equipment and related conveying process and services
- birds to be processed
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment• FDFOP2011A Conduct routine maintenance• FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Production equipment	<p>Production equipment may include:</p> <ul style="list-style-type: none"> • stunner • knives • bleeding tunnels • scalding tank • plucking equipment • head and trachea puller • feather collection systems
Operation of equipment and processes	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> • the use of process control panels and systems
Shutdown procedures	Shutdown procedures may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)
Services	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include</p> <ul style="list-style-type: none"> • power • water • instrumentation air

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPO2009A Work in an egg grading floor

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge to work in an egg grading floor in either an operating or quality role. It covers basic egg characteristics, purpose of grading floor, and quality principles in egg production and packing.
------------------------	--

Application of the Unit

Application of the unit	The unit is an introductory unit that provides the basic knowledge and skills for working in egg grading and packing facilities and is intended to support induction programs for operators and other staff.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify key features of the egg grading operation	1.1. Key work locations and egg grading and packaging equipment on egg grading floor are identified 1.2. Grades of eggs packed by the enterprise are identified 1.3. Trays and packaging used for all orders and location of best before dates on trays and cartons are identified 1.4. Storage locations for packed orders prior to despatch are identified 1.5. Key workplace information sources are identified
2. Recognise key characteristics of eggs	2.1. Recognise egg components are recognised 2.2. Identify differences between egg grades are identified
3. Recognise common egg faults	3.1. Gross, hairline, star cracks, black rot, dirt and other faults in eggs are recognised 3.2. Candling process and defects identified through candling are explained
4. Understand role of egg grading floor	4.1. Importance of early grading and packing on freshness is explained 4.2. Method and purpose of egg cleaning is explained 4.3. Key risks to food safety on egg grading floor are identified, including Hazard Analysis and Critical Control Point (HACCP) plan egg grading floor critical control points 4.4. Workplace environmental guidelines and implications for egg grading floor operations are identified 4.5. Common grades of fresh eggs are recognised 4.6. Steps and locations for detecting eggs with gross defects are explained 4.7. Quality system is explained, including sampling program and tests conducted both on and off the grading floor 4.8. Key steps of packaging process are identified, including process for printing best before date 4.9. Temperature and humidity requirements for storing eggs are identified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify grading floor layout, including conveyors, washing drying, weighing and checking equipment, lanes, denestor side, backpack side, lane boards and other instruction boards, store rooms and cool rooms
- identify grades of eggs by weight, size and shell colour characteristics
- identify packaging types used within the enterprise including those for all customers
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- functions of key work areas including washing equipment, weighing and automatic fault
- detection equipment, lanes, denestors, backpack side, quality room and cool rooms
- egg components and purpose, including shell, shell membranes, yolk, albumen and air cell
- key egg faults, including types of cracks, faulty colouring, faulty shapes and blood and other inclusions
- temperature and humidity requirements for storing eggs and effects of variation from these requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work being performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • identify egg receiving, denestor, backpack, pulping and storage equipment and work stations • identify type and grades of eggs packed within the enterprise • ability to recognise types of faults in eggs and methods used to detect each fault • identify food safety risks on egg grading floor and critical control points • identify order control system and trays and cartons used for orders • identify temperature, humidity and other storage requirements for eggs.
Context of and specific resources for assessment	<p>Assessment must occur in the workplace where there the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • egg washing, grading and packing equipment • documentation and recording requirements and procedures • eggs of different grades and condition including eggs demonstrating most common faults.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
Guidance information for assessment	<p>When used for induction purposes, assessment of competency should be demonstrated on more than one occasion over a period of time in order to ensure</p>

EVIDENCE GUIDE	
	consistency and equity and in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • floor layout diagrams • manufacturers' advice • standard enterprise forms and reports
Key egg components	<p>Key egg components include:</p> <ul style="list-style-type: none"> • shell • albumen • yolk • shell membranes • air cell
Egg grading and packaging equipment	<p>Equipment may be:</p> <ul style="list-style-type: none"> • manual or automatic with central controls or operator set controls, including controls for printing best before dates
Best before dates	<p>Best before dates are printed on packaging to advise consumers of the best period for consumption of the packed eggs. The date period may vary by:</p> <ul style="list-style-type: none"> • species • type of egg • region
Haugh score	<p>Haugh score is:</p> <ul style="list-style-type: none"> • a comparison of the height of the albumen

RANGE STATEMENT	
	midway between the yolk and the edge of the albumen with the weight of the egg
HACCP plan	<p>The principles of HACCP are:</p> <ul style="list-style-type: none"> • hazard analysis • identifying critical control points • establishing critical limits • monitoring • taking corrective action • keeping record • verifying results <p>The HACCP plan for egg production enterprise will identify the critical control points on the egg grading floor.</p>
Factors affecting egg quality	<p>Factors affecting egg quality may include:</p> <ul style="list-style-type: none"> • age and health of the hen • time between laying and consumption • storage at low temperatures and required humidity as soon as possible after laying • strain of chicken • texture, colour, shape, soundness and cleanliness of shell
Candling process	<p>The candling process may be automatic or manual and is used to detect shell cracks and defects not normally visible and internal defects, including:</p> <ul style="list-style-type: none"> • blood spots • meat spots • mottled and glassy shells • rotten eggs • stale eggs (large air cells) • cracks • misshapen shells

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPO2010A Operate egg grading and packing floor equipment

Modification History

November 2011: minor typographical error corrected.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to operate and monitor specialist egg washing, grading and packaging equipment.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to operators working in an egg grading and packing floor who are operating and monitoring equipment directly in contact with eggs. These positions will generally be washing station, denestor and backpack work stations. Work stations and positions, such as those dealing with movement and placement of empty trays or filled outer packaging, are covered by more generic units such as:</p> <ul style="list-style-type: none"> • FDFOP2022A Operate a high speed wrapping process • FDFOP2023A Operate a packaging process • TLID207C Shift a load using manually-operated equipment. <p>Where liquid egg products are manufactured from damaged and faulty eggs the following units may be required depending on the type of liquid egg products being produced:</p> <ul style="list-style-type: none"> • FDFOP2008A Operate a bulk liquid transfer process • FDFOP2034A Operate an evaporation process • FDFOP2040A Operate a heat treatment process (for pasteurisation).
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFPO2009A	Work in an egg grading floor

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Operate and monitor egg receiving equipment</p>	<p>1.1. Production schedules are checked for egg type requirements, for example, cage, barn laid, free range and organic</p> <p>1.2. Eggs requiring manual loading are placed onto conveyor</p> <p>1.3. Conveyor, finger sorter and other egg receiving equipment are checked for jams and faults</p> <p>1.4. Primary and secondary wash and rinse machines and dryers are checked for correct operation</p> <p>1.5. Passage of eggs through crack and leak detectors, weighing stations is checked to make sure that faulty eggs are being identified and dropped out</p> <p>1.6. Sorting of eggs into different size lots is monitored for conformance to enterprise and job specification</p>
<p>2. Operate and monitor denestor side egg packing lanes</p>	<p>2.1. Correctly printed packaging is loaded onto lane take off holders according to production instructions or orders</p> <p>2.2. The correct number of size and grade of egg pallets and packs according to customer order are supplied to each lane</p> <p>2.3. Packing order requirements, including number of eggs per carton or tray, and number of cartons or trays per order type are entered into each lane through key pad terminal</p> <p>2.4. Mechanical setting of the lane machinery for different size trays is undertaken where required</p> <p>2.5. Setting of best before date printer is undertaken or checked</p> <p>2.6. Lanes are monitored to ensure that lanes do not run out of egg trays</p>
<p>3. Operate and monitor backpack side egg packing lanes</p>	<p>3.1. Number of cartons per order are determined from lane boards or other job instructions</p> <p>3.2. Packing lanes are monitored to ensure trays are being packed into correct outer packaging</p> <p>3.3. Trays not requiring packing are stacked into outer containers</p> <p>3.4. Quality checks are undertaken according to standard operating procedures, including checks on outer quality, date printing on all, eggs weights, cleanliness, Haugh unit reading, and misshapen and</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>cracked eggs in cartons</p> <p>3.5. Work is conducted in accordance with workplace environmental guidelines</p>
<p>4. Process damaged and faulty eggs</p>	<p>4.1. Containers of faulty eggs from washers and damaged eggs from packing machines are collected and transported to liquid egg processing station</p> <p>4.2. Eggs are sorted into edible and inedible waste product</p> <p>4.3. Edible waste product are weighed and recorded within specified time intervals</p> <p>4.4. Faulty and damaged edible eggs are fed to egg breaking or egg pulping machine</p> <p>4.5. Egg pulping machine is started according to standard operating procedure</p> <p>4.6. Temperature of egg pulping machines are monitored and any over-temperatures reported</p> <p>4.7. Speed of pumps are monitored and adjusted to suit pulping and container filling operations</p> <p>4.8. Inedible egg waste product is weighed, recorded and disposed of according to procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify processing requirements
- select, fit and use personal protective clothing and/or equipment
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lock outs as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- correctly start and stop egg washing, packing and grading machines
- monitor supply and flow of eggs through washing and packing equipment
- identify visually faulty eggs, including dirty eggs after washing, cracked eggs, leaking eggs and misshaped eggs
- use yolk colour test card
- conduct Haugh unit checking
- fix simple jams and blockages
- locate emergency stop functions on equipment
- monitor machine performance for above average egg damage, incompletely filled trays and outer packaging, obvious misses of faulty and damaged eggs, and over temperature equipment
- detect abnormal noise or vibration
- match orders to inner and outer packaging materials
- conduct changeovers to different capacity cartons and catering trays including mechanical adjustments using claw or other specialised tool
- prepare equipment for cleaning
- respond to and/or report equipment failure within level of responsibility
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- grading floor layout, including conveyors, washing drying, weighing and checking

REQUIRED SKILLS AND KNOWLEDGE

- equipment, lanes, denestor side, backpack side, lane boards and other instruction boards, store rooms and cool rooms
- method used for communicating daily orders (e.g. lane boards)
- purpose of best before dates
- method of setting best before date printer
- understanding type and implication of cracks
- location and contents of all material safety data sheets (MSDS) for chemicals used in washing and cleaning processes
- types of trays, outer packaging, buckets and other containers used on grading floor and system used to identify containers used for first grade, seconds and useless eggs
- determining first grade, seconds and useless eggs
- maximum collection times for seconds and useless eggs from grading floor collection points

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for egg receipt, washing, packing and grading • start, operate, monitor and adjust equipment to achieve required orders and quality outcomes • take corrective action in response to jams, other typical faults and inconsistencies in washing, weighing faulty egg identification and packing • correctly change denester side operation between different size packs • correctly identify and match trays to outer packaging for orders • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in the workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule, batch/recipe instructions • egg washing, grading and packing equipment • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Egg receiving equipment	<p>Egg receiving equipment may include:</p> <ul style="list-style-type: none"> • conveyors bringing eggs directly from laying sheds or barns • conveyors requiring manual loading of eggs from trays delivered to grading floor by trucks
Carton and tray size	<p>Carton and tray size can vary from between enterprises and may include:</p> <ul style="list-style-type: none"> • six, twelve, fifteen and eighteen egg cartons • twenty and thirty egg trays
Faulty eggs	<p>Faulty eggs include:</p> <ul style="list-style-type: none"> • eggs rejected either automatically or manually because they are out of size, shape or weight

RANGE STATEMENT	
	specification
Damaged eggs	<p>Damaged eggs include:</p> <ul style="list-style-type: none"> eggs rejected either automatically or manually because of cracks or leaks or are eggs damaged during the washing and packing process
Denestor side	<p>Denestor side work stations are:</p> <ul style="list-style-type: none"> those positions working on the side of the egg packing machine lanes where eggs are received from the washing equipment and where empty trays are loaded into each lane for filling
Backpack side	<p>Backpack side work stations are:</p> <ul style="list-style-type: none"> those positions working on the side of the egg packing machine lanes where filled egg trays are either packed into outer containers or taken off as individual filled trays
Egg storage rooms	<p>Storage of packed eggs prior to despatch may be:</p> <ul style="list-style-type: none"> undertaken in temperature and humidity controlled storage rooms
Shutdown procedures	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPO3001A Operate a chickway system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan, set up and operate a carcass delivery system to deliver birds to the packaging area to meet production orders.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a poultry production environment. It typically targets the production worker responsible for applying basic operating principles to the operation and monitoring of a chickway system.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the chickway system for operation	1.1. Computer program is selected and loaded to suit product 1.2. Line start up is controlled 1.3. Bird drop requirements are identified 1.4. System is set to meet production requirements
2. Monitor system operation	2.1. New orders are entered and system parameters set to meet requirements through the day 2.2. Priorities are adjusted to meet production and customer requirements 2.3. Weight ranges are monitored and system settings adjusted to meet customer orders 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The system is monitored to confirm that specifications are met 2.6. Out-of-specification process outcomes are identified, rectified and/or reported to maintain the process within specification
3. Handover system operation	3.1. Workplace records are maintained according to workplace recording requirements 3.2. Handover is carried out according to workplace procedures 3.3. Process operators are aware of system and related equipment status at completion of handover
4. Shut down the system	4.1. The appropriate shutdown procedure is identified 4.2. The system is shut down according to workplace procedures 4.3. Maintenance requirements are identified and reported 4.4. Work is conducted according to workplace environmental guidelines
5. Contribute to continuous improvement of the system	5.1. System performance is reviewed against output plan/targets 5.2. Opportunities for system improvement are identified and investigated 5.3. Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access kill plan, customer orders and related information to plan order priorities
- select and load required program
- apply basic standard deviation to analyse weight distribution of flock
- operate control system to start conveyors
- confirm that birds available match production order requirements
- select system settings to deliver birds of required weight, type, grade and number to required production areas at the time required
- modify system parameters to respond to operating conditions and bird supply
- monitor system operation, such as monitoring:
 - timely flow and delivery of birds to meet production requirements
 - pace of delivery to production area to match work flow
 - system alarms
 - weight ranges to confirm match with delivery requirements
- liaise with relevant departments to respond to customer requirements
- identify out-of-specification performance and take corrective action, such as responding to out-of-specification weight, drop position and sensor errors
- demonstrate system shutdown procedure
- monitor operating efficiencies of the system and investigate, resolve and/or report problems
- report on system performance as required by workplace reporting arrangements
- conduct computer system maintenance as required to clear computer for new start
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- system configuration, including system flow, layout and drop points
- customer ordering procedures, including common terms used to describe product and order requirements, and criteria to apply to prioritise customer orders
- basic operating principles of equipment and programs used to deliver the required birds to the correct locations within constraints of birds available and to generate system reports

REQUIRED SKILLS AND KNOWLEDGE

- the main alarms and corrective action required
- location/alignment requirements of sensors and related feedback instruments located in the system hardware
- limits and ranges to adjust for weight distribution
- related systems/activities and responsibilities for interaction, such as related planning and scheduling, sales/customer service, bird receipt, kill and evisceration, and packing
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- isolation, lock out and tag out procedures and responsibilities
- hazards, risks, controls and methods for monitoring processes within the system, including occupational health and safety (OHS), food safety, quality and environmental hazards and risks
- workplace system and approach to equipment maintenance
- process improvement procedures and related consultative arrangements (e.g. an understanding of options to minimise giveaway)
- troubleshooting procedures and problem solving techniques
- procedures and responsibility for reporting production and performance information

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on chickway system • set computer settings to meet production requirements • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • conduct production handover • safely shut down equipment • apply food safety procedures to work practices • contribute to workplace improvements.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in the workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • kill schedules, customer orders and related advice on system requirements • information on equipment capacity and operating parameters • system equipment, software and related accessories and services • birds and packing hall • communication and recording systems and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• FDFOP2015A Apply principles of statistical process control• FDFOP2030A Operate a process control interface.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standard Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • kill plan • customer orders • performance records and reports
Chickway system operation	<p>Chickway system operation typically involves:</p> <ul style="list-style-type: none"> • planning, coordination and troubleshooting within level of authority <p>System operation may involve:</p> <ul style="list-style-type: none"> • coordination of other operators <p>A chickway system involves:</p> <ul style="list-style-type: none"> • use of a computer to control the conveyor system that delivers birds of a given size, weight and grade to the required locations for packing or further processing
Handovers	<p>Handovers may be done:</p> <ul style="list-style-type: none"> • in person or via recording/communication

RANGE STATEMENT	
	systems as required by workplace arrangements
Operation and monitoring of equipment and system processes	Operation and monitoring of equipment and system processes requires: <ul style="list-style-type: none"> the use of control panels and systems

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPO3002A Debone and fillet product (manually)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to manually debone and fillet poultry.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a poultry production environment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the deboning/filleting equipment and process for operation	1.1. Washed and chilled carcasses or pieces are available to meet production requirements 1.2. Equipment components are clean and set to meet operating requirements 1.3. Equipment performance is checked and adjusted as required 1.4. Pre-start checks are carried out as required by workplace requirements
2. Monitor deboning/filleting process operation	2.1. Carcasses or pieces are delivered to the boning area 2.2. Carcasses or pieces are inspected to confirm quality specifications are met 2.3. Bones are removed and fillets prepared to meet specification 2.4. Equipment is monitored to identify variation in operating conditions 2.5. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.6. Work is conducted in accordance with workplace environmental guidelines 2.7. Workplace is maintained according to housekeeping standards 2.8. Workplace records are maintained according to workplace recording requirements
3. Shut down the deboning/filleting process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify deboning/filleting process requirements
- select, fit and use personal protective clothing and/or equipment, including wearing of mesh gloves or similar protective clothing
- confirm supply of necessary carcasses or pieces and related equipment, such as tubs, crates and/or bins
- conduct pre-start checks, such as inspecting knife and related equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, confirming that equipment is clean and correctly configured for deboning/filleting process requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational
- debone and fillet product to meet specifications, including demonstration of a range of cuts to required quality, time and yield
- monitor boning and filleting process, such as:
 - product quality
 - clean removal of skin and bones as required
 - removal of fat, gristle, spots or bruised flesh
 - no bone fragments remain in product
 - yield
 - knife sharpness
- monitor supply and flow of carcasses/pieces to the process
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use process control systems according to enterprise procedures
- conduct routine maintenance according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- purpose of the deboning/filleting process, including the skeletal structure of poultry products and the effect of this process on portion control and yield
- quality characteristics to be achieved for the different types of cuts required, including the consequences of failing to remove bones and prepare fillets to specification
- quality requirements of carcasses/pieces suitable for processing and effect of variation on process performance
- basic operating principles of equipment used, including knife techniques, as well as related equipment components, such as conveyors
- knife handling, sharpening, cleaning and storage procedures
- the flow of the deboning/filleting process and the effect of outputs on downstream processes
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- contamination/food safety risks associated with the deboning/filleting process and related control measures
- occupational health and safety (OHS) hazards and controls, including safety related to use of knives
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the deboning and filleting process, including waste collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures where relevant
- cleaning and sanitation procedures where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on equipment used for deboning • assess carcass or pieces to ensure quality • manually debone and fillet poultry • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • clean equipment • apply food safety procedures to work practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • information on equipment capacity and operating parameters • production schedule/batch instructions • specifications, control points and processing parameters • deboning/filleting and related equipment and services • carcasses/pieces to be filleted • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	other units of competency relevant to the function or work role. An example could be: <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
Typical cuts	<p>Typical cuts may include:</p> <ul style="list-style-type: none"> • Leonards cut • easy carve • Maryland • boning out a turkey buff • kiev
Deboning/filleting equipment	<p>Deboning/filleting equipment may include:</p> <ul style="list-style-type: none"> • cones • boning lines (conveyor) or static lines

Unit Sector(s)

Unit sector	Poultry
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL2001A Participate in work teams and groups

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to work effectively with others to complete work activities.
------------------------	---

Application of the Unit

Application of the unit	This unit can apply to participation in structured teams and informal work groups.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify team objectives	<p>1.1. Team tasks, responsibilities and performance measures are identified and agreed</p> <p>1.2. Tasks required to achieve goals and performance standards are discussed and agreed</p>
2. Participate in planning work activity	<p>2.1. Personal work tasks and roles are negotiated to ensure team goals and performance standards are met</p> <p>2.2. Information is provided to contribute to planning work group activities</p> <p>2.3. Personal skills are assessed to identify match with team skill needs</p> <p>2.4. Personal workload is planned to meet team goals and performance standards</p>
3. Complete work tasks and roles to meet team requirements	<p>3.1. Work is undertaken to achieve team goals and performance standards</p> <p>3.2. Communication between team members and with other work areas is appropriate and timely</p> <p>3.3. Timely requests are made for assistance as required to meet team goals and performance standards</p> <p>3.4. Assistance is provided to other team members to achieve team goals and performance standards</p> <p>3.5. Work is conducted in accordance with workplace environmental guidelines</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify team objectives, responsibilities and performance standards
- confirm and agree on work roles and responsibilities within the team
- complete work responsibilities within agreed timelines
- assess time and other resource requirements related to achieving own work responsibilities
- identify problems and request assistance in a timely manner to achieve personal and team goals
- use communication techniques appropriate to the audience
- exchange constructive feedback with team members
- participate effectively in team processes, including working with own team members and with other teams and work areas
- support other team members to achieve team goals
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- procedures for establishing team goals and performance standards
- methods used to measure achievement of personal and team goals
- team goals and personal role in achieving work outcomes
- group processes, including basic facilitation, negotiation and conflict resolution

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify team goals and expectations and personal role within the team • plan work to maximise outcomes for team • apply communication skills to engage with other participants • participate in and support the achievement of team goals.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • opportunities to participate in team processes • workplace arrangements for establishing company, workplace and team goals • methods used to measure and report on performance against targets or standards • resources required to achieve personal work requirements.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Personal and team measures	<p>Personal measures may include:</p> <ul style="list-style-type: none"> • achievement of work outcomes • performance appraisal systems <p>Team measures may include</p> <ul style="list-style-type: none"> • performance indicators
Teams	<p>Teams refer to:</p> <ul style="list-style-type: none"> • both defined teams and to work groups who interact to achieve work outcomes and/or to address a specific function or issue
Achieving team goals	<p>Achieving team goals typically involves:</p> <ul style="list-style-type: none"> • cooperation with own team members and with other teams and work areas
Workplace language	<p>Everyday workplace language is used and may include:</p> <ul style="list-style-type: none"> • commonly used technical terms
Communication systems	<p>Communication systems reflect the culture of the workplace and the workforce. This may include:</p> <ul style="list-style-type: none"> • communicating with people from diverse cultural backgrounds and with people with limited English language and literacy skills

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL3001A Participate in improvement processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers to skills and knowledge required to participate in performance improvement processes that involve systematic analysis of performance to identify and propose opportunities for improvement.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a work environment where the worker has scope to investigate and participate in improvement processes.</p> <p>Where structured analysis and investigation is not required to participate in improvement programs, this unit does not apply.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify opportunities for improvement	1.1. Barriers to good practice or optimal performance are identified 1.2. Scope of issue or problem to be addressed is clearly defined
2. Identify information requirements	2.1. Data required to investigate improvement opportunity is identified 2.2. Appropriate data collection methods are selected 2.3. Additional resources available to support investigation are identified
3. Analyse the issue or problem	3.1. Techniques required to investigate nature of issue or problem are selected and applied 3.2. A detailed description of the issue or problem is developed 3.3. Possible causes are identified and tested 3.4. Options for improvement are identified and assessed
4. Recommend options for improvement	4.1. Preferred options are identified and described 4.2. Recommendations are presented in formats appropriate to the issue and the audience 4.3. Recommendations are consistent with data collected and analysed
5. Participate in implementing improvement proposals	5.1. Improvement trials are supported 5.2. Improvement proposals are evaluated and refined 5.3. Operating procedures are updated and communicated to reflect implementation of improved practices 5.4. Improvement in performance is monitored

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify nature and scope of improvement opportunity
- consult others to confirm improvement opportunity definition
- determine data collection requirements and appropriate collection methods
- identify resources requirements to support investigation, such as negotiating access to resources as required, and where required, identifying expertise or improvement team members
- collect data, such as collecting samples and taking measurements
- determine and apply appropriate data analysis techniques
- draw conclusions based on the data collected and analysed
- communicate findings in forms appropriate to the nature of the issue and the audience
- receive and take account of feedback
- participate in related trials and/or changes to work practices arising from improvement proposals
- monitor and document results of trials/implementation and participate in modifying change to support ongoing improvement
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- objectives to be addressed by improvement proposals, such as quality, occupational health and safety (OHS), environmental management, cost, efficiency and job satisfaction
- the context in which improvement occurs, including capital expenditure and labour budgets, equipment capacity and production targets
- workplace approach to structuring improvement processes
- resources available to the workplace to support improvement processes, including both internal and external resources
- data collection and analysis techniques appropriate to the nature of the improvement opportunity and the workplace
- communication techniques to support data collection, consultation and teamwork required to participate in improvement processes

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• documentation management systems to support changes in work practices to reflect improvement processes |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify opportunities for improvement and develop objectives and parameters for investigation • plan study and data collection methods • collect and analyse data and evidence to test ideas • present improvement plans with evidence to support rationale • implement and monitor improvement processes • apply safe work practices and identify OHS hazards and controls • ensure improvement plans reflect overall organisational objectives.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • information storage and retrieval systems • relevant technical information and personnel resources • opportunities to interact with others using typical workplace communication processes • relevant workplace documentation.
<p>Method of assessment</p>	<p>This unit should be assessed together with other units of competency relevant to the work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2015A Apply principles of statistical process control • FDFOP2064A Provide and apply workplace information • FDFPPL2001A Participate in work teams and groups • PMBQUAL390A Solve problems using quality tools.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Process improvement	Process improvement is typically investigated and developed in consultation with others
Data analysis	Data analysis typically involves: <ul style="list-style-type: none"> • use of computer programs but may also be carried out manually
Problem solving tools	Problem solving tools can include but are not limited to: <ul style="list-style-type: none"> • fishbone diagrams/cause and effect diagrams • workflow analysis • Pareto diagrams • SWOT analysis

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFPPL3002A Report on workplace performance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to collate and maintain workplace records to enable the monitoring and reporting of workplace performance.
------------------------	---

Application of the Unit

Application of the unit	This unit would typically apply to a team leader or person responsible for monitoring and reporting on performance of a work area or section.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify recording and reporting requirements	<p>1.1. The purpose of recording performance-related information is identified</p> <p>1.2. Recording and reporting responsibilities are identified</p> <p>1.3. Recording and reporting systems and formats are identified</p>
2. Maintain workplace information	<p>2.1. Records are complete, timely and accurate</p> <p>2.2. Performance information is recorded in required format to meet workplace reporting requirements</p> <p>2.3. Errors or discrepancies in recording are identified and corrected or notified to appropriate personnel</p> <p>2.4. Variances are identified, investigated and reported according to workplace procedure</p> <p>2.5. Requests for information are assessed, prioritised and addressed to meet required timelines</p>
3. Maintain security of workplace information	<p>3.1. Access levels and authorities are identified</p> <p>3.2. Security of workplace records and reports is maintained</p> <p>3.3. Security breaches are identified and reported to appropriate personnel</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify and use recording/reporting formats and systems
- identify information security requirements and procedures for responding to/reporting a security breach
- collect and collate information to be recorded as required
- assess information to confirm that it is complete and accurate and follow up inaccurate recording with relevant personnel
- identify significant performance variation, investigate and report cause/s
- prepare reports in required format to meet reporting timelines
- respond to information requests on a timely basis
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the purpose and responsibilities for the information records and reports to be maintained or produced, including accuracy levels and timeliness of recording and reporting
- techniques used to collate and assess information, including typical recording outcomes to identify unusual or incorrectly recorded information
- likely causes of variation and related reporting responsibilities
- information system access levels and codes, such as levels within software
- communication skills relevant to reporting role

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • describe the reporting and recording systems and procedures for work area • record information on work performance in accordance with reporting procedures • report variances and inconsistencies • maintain security of work documentation.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • advice on workplace policies, codes of practice and procedures • workplace information/records • recording/reporting formats and systems.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies, procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Information recorded and reported	<p>Information recorded and reported may include but is not limited to:</p> <ul style="list-style-type: none"> collation of information recorded by others, such as timesheets, log sheets, recipes/specifications, operating procedures, production statistics, downtime, labour and materials usage levels
Recording systems	<p>Recording systems may:</p> <ul style="list-style-type: none"> be carried out manually or involve the use of use of planning and systems control software, such as SAP and MRPII

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL3003A Support and mentor individuals and groups

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to model appropriate work practices, provide feedback to groups and individuals and facilitate group processes.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to support provided to a team or work group. A person competent in this unit may or may not have formal responsibility for managing others.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Support others in the work area	1.1. Individuals are mentored to meet work requirements 1.2. Performance that is inappropriate is identified and corrective action taken 1.3. Feedback on performance is provided
2. Facilitate group processes	2.1. Purpose of group process is identified 2.2. Meeting procedures required to achieve an agreed outcome are determined and applied 2.3. Group members are engaged in the process 2.4. Clear outcomes are reached in a timely manner

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- model behaviour consistent with company policies and procedures
- identify behaviour or performance that is unacceptable
- structure interventions and feedback to clearly convey required standard of performance
- apply appropriate explanation, demonstration, questioning and active listening techniques when interacting with others
- provide feedback appropriate to the audience requirements
- recognise and respond appropriately to difference and diversity in the workplace
- provide and/or arrange opportunities to develop/practice appropriate skills
- plan group processes, including clearly identifying the purpose of the discussion or meeting, confirming the appropriate people are available and planning a basic outline of the approach and/or agenda
- facilitate meetings, including confirming with group members the purpose of the discussion or meeting, engaging people in discussion and assisting the group to reach an agreed outcome within the allotted timeframe
- record meeting outcomes
- follow up group processes, including identifying actions required to follow up outcomes of a discussion or meeting
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- company policies and procedures as they apply to the work area, including areas covered by legislation, such as sexual harassment, equal employment opportunity (EEO)/affirmative action, anti-discrimination, racial vilification and workplace bullying, occupational health and safety (OHS), food safety and environmental management
- industry awards and enterprise agreements to develop an awareness of the main issues covered as they affect day-to-day work arrangements
- systems and programs in the workplace to support development and mentoring of others
- relevant resources to support mentoring role and responsibilities
- techniques for structuring and explaining work-related information to meet the

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <p>needs of people in the work area</p> <ul style="list-style-type: none">• interpersonal skills, including appropriate questioning, listening and feedback techniques• training/assessment arrangements in the workplace and related responsibilities• boundaries of responsibility and related procedures for feedback, counselling and disciplinary procedures• formal arrangements and responsibilities for consulting others relating to work role• meeting procedures and recording requirements as relevant in the workplace |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • model behaviour and performance consistent with company policy and procedures • support others in their behaviour and performance • provide feedback on performance and take corrective action on inappropriate behaviours • plan and organise group meetings or activities to engage participation • support group meetings to gain clear outcomes.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • advice on workplace policies, codes of practice and procedures • opportunities to interact with others using typical workplace communication processes • typical group forums, such as structured group discussions, committee meetings and work groups • workplace systems and procedures for consultation, feedback, counselling and discipline • advice on conditions of employment and entitlements • information systems, including recording and retrieval systems.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2005A Work in a socially diverse environment • FDFPPL3004A Lead work teams and groups.
<p>Guidance information for</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

EVIDENCE GUIDE	
-----------------------	--

assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------	--

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies, procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Mentoring and feedback arrangements	Mentoring and feedback arrangements may be: <ul style="list-style-type: none"> • formal or informal
Corrective action	Corrective action may include: <ul style="list-style-type: none"> • reporting an incident to a more senior person as appropriate
Group processes	Group processes may include: <ul style="list-style-type: none"> • formal meeting procedures and informal discussions • group meetings
Communication systems	Communication systems reflect the culture of the workplace and the workforce. This may include: <ul style="list-style-type: none"> • communicating with people from diverse cultural backgrounds and with people with limited English language and literacy skills
Meeting procedures	Meeting procedures include: <ul style="list-style-type: none"> • developing an agenda • seeking input • recording actions arising and working towards an agreed outcome within time allocation

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL3004A Lead work teams and groups

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan to achieve work requirements, secure resources and monitor the outputs of a work team or group.
------------------------	--

Application of the Unit

Application of the unit	This unit can apply to people with formal responsibility for team/group leadership and to those with occasional responsibility for this role.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Negotiate and communicate team objectives	<p>1.1. Team goals, tasks and responsibilities are communicated and agreed with team members</p> <p>1.2. Team performance standards and measures are communicated and agreed with team members</p>
2. Plan the work activity	<p>2.1. Individual roles and responsibilities of team members are assigned in consultation with others</p> <p>2.2. Work roles are allocated to take account of team goal and the skills and expertise of each team member</p> <p>2.3. Resources required to achieve work outcomes are identified and secured</p> <p>2.4. Development needs of team members are identified and addressed</p>
3. Manage team work to achieve required outcomes	<p>3.1. Work progress is monitored against timelines and performance measures</p> <p>3.2. Team members are kept informed of progress towards achieving team performance indicators</p> <p>3.3. Potential barriers to achieving team goals are identified and corrective action taken</p> <p>3.4. Team performance variances are identified, investigated and reported according to workplace reporting requirements</p> <p>3.5. Team members are encouraged to actively contribute to team growth and development</p> <p>3.6. Workplace information systems and procedures are followed to record and report on team performance</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- communicate and agree on team goals, performance standards and performance measures within the context of workplace arrangements for team or group work
- establish and secure resources, such as labour (crew levels and competency profiles) and other resources as required
- develop plans and schedules to achieve team goals, including the ability to assess impact of planning decisions on related issues, such as impact on other work areas, resource utilisation and costs
- facilitate group processes, including mediating and resolving different interests, personal and work styles as required and encouraging/providing opportunities for active participation of team members
- allocate and negotiate work roles and responsibilities in consultation with team members to match work requirements and skills and abilities of team members
- identify and address learning needs of team members
- provide a mentoring role to team members
- monitor team outputs against objectives and make adjustments as required to achieve plan
- monitor resource utilisation against plan
- provide feedback on team and individual performance according to workplace feedback procedures
- represent and advocate on behalf of the team in other workplace forums as required
- use communication techniques appropriate to the audience, such as communicating with people from diverse cultural backgrounds and with people with limited ability to speak or understand English
- record information on team performance as required
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- facilitation techniques and communication skills to support the active engagement and participation of team members in team processes
- work procedures relevant to team tasks and related occupational health and safety (OHS), food safety, quality and environmental management issues, hazards and control measures

REQUIRED SKILLS AND KNOWLEDGE

- workplace planning and performance measurement systems and processes
- methods used to measure achievement of personal and team goals
- resource allocation systems used in the workplace as appropriate to secure relevant resources required by the team or group
- work capacity, skills and knowledge of team or work group members in order to allocate roles appropriate to skill level and plan development opportunities
- competency requirements of work functions, including any special work conditions that may be covered by additional licensing or certification requirements
- duty of care when allocating work roles and responsibilities
- competency identification and training arrangements in the workplace
- communication skills required to represent and advocate on behalf of the team or work group
- stages of team development
- recording and reporting system and responsibilities

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • ensure all team members understand and agree to team goals and expectations and their personal responsibilities • plan team activity to take into account team goals, timelines, individual capabilities and resources • monitor outcomes against timelines and communicate progress with team members • apply interpersonal communication skills to engage and support team members • support positive outcomes for the individual and team.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • opportunities to facilitate team processes • workplace arrangements for establishing company, workplace and team goals • methods used to measure and report on performance against target • planning processes • resource management and allocation systems as appropriate • resources required to achieve team outcomes • competency recording and workplace training arrangements.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. An example could be:</p> <ul style="list-style-type: none"> • FDFPPL3003A Support and mentor individuals and groups.

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Personal and team measures	<p>Personal measurement can include:</p> <ul style="list-style-type: none"> • achievement of work outcomes • performance appraisal systems <p>Team measures can include:</p> <ul style="list-style-type: none"> • performance indicators
Responsibility for leading a team or group	<p>Responsibility for leading a team or group may be:</p> <ul style="list-style-type: none"> • a formal or informal role • an occasional role
Teams	<p>Teams refer to:</p> <ul style="list-style-type: none"> • both defined teams and to work groups who interact to achieve work outcomes and/or to address a specific function or issue
Communication systems	Communication systems reflect the culture of the workplace and the workforce

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFPPL3005A Participate in an audit process

Modification History

November 2011: update to imported unit.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to participate in an internal audit process and is appropriate where internal audit processes are conducted to support externally audited programs.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application where auditing occurs in an area that the person is not directly responsible for and where they are required to follow a formal, structured process. It is designed to support participation in auditing a range of programs designed to identify hazards, assess risk and implement control measures. These may include but are not limited to occupational health and safety (OHS), quality and environmental management. At this level, the person would typically work under direction and may be required to operate within established audit procedures, such as those outlined in ISO 10011.</p> <p>Participation implies that the person can participate in all stages of an audit but is not responsible for negotiating audit scope, allocating audit tasks to others or reporting on audit outcomes.</p> <p>When applied to the pharmaceutical industry, FDFPH2001A Apply Good Manufacturing Practice procedures should be selected to support the application of this unit. FDFPH2001A incorporates content covered in FDFOP2063A Apply quality systems and procedures, and can be used as an alternative to this prerequisite unit for this sector.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOHS2001A	Participate in OHS processes
	FDFOP2063A	Apply quality systems and procedures
	MSAENV272B	Participate in environmentally sustainable work practices

Employability Skills Information

Employability skills	
	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Participate in planning an audit	1.1. Roles and responsibilities for participating in the audit are identified 1.2. The purpose and scope of the audit is identified 1.3. Information and resources required to conduct the audit are identified and located
2. Participate in conducting an audit	2.1. Information is collected that is adequate, representative and meets audit requirements 2.2. Information is analysed to assess adequacy of performance against program 2.3. Records are reviewed to confirm compliance with the program 2.4. Compliance with the program is observed in the workplace 2.5. Areas requiring corrective action are identified
3. Report and follow up audit outcomes	3.1. Situations presenting an imminent and serious risk to the program objectives are identified and reported immediately in accordance with reporting requirements 3.2. Audit reports are prepared to address audit scope requirements 3.3. The results of the audit are communicated according to audit purpose and requirements 3.4. A corrective action plan is developed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify personal roles and responsibilities for participating in the audit process
- identify audit purpose, scope, steps and timelines
- identify and locate information required to conduct the audit
- review workplace documentation to confirm that required information is available
- prepare tools as required to collect information, such as checklists and interview schedules
- identify any changes that have occurred in the workplace since initiating the program or since the last program audit that could affect program outcomes
- apply appropriate questioning, observation and related communication skills to support information collection
- review records, conduct interviews, observe workplace practice and collect other relevant information as required to assess compliance with program requirements
- take immediate action to report non-conformities that present an imminent and serious risk to the program objectives within level of responsibility
- identify, investigate and record evidence of non-conformance and judge significance
- assess the adequacy of the program by analysing the information collected against the program objectives
- form conclusions on audit outcomes based on an objective assessment of evidence collected
- report the findings of the audit in appropriate format
- communicate audit outcomes within level of responsibility using techniques and presentation styles appropriate to the audience
- where findings indicate either a failure to comply with the program or inadequacy of the program, participate in investigation of causes of failure and identification of corrective action options
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the purpose and intent of the program being audited
- personal roles and responsibilities in the audit process and related responsibilities

REQUIRED SKILLS AND KNOWLEDGE

- of other members of the audit team
- the purpose and stages involved in the audit process
- workplace information and related information management systems
- techniques for collecting information, including options, relevance and strengths and weaknesses of each method to ensure data is adequate and representative
- data analysis methods relevant to the audit process
- communication skills and techniques appropriate to the workplace
- technical knowledge relevant to the program being audited in order to verify compliance and assess adequacy of existing control measures, including relevant industry standards
- purpose and responsibilities for maintaining records

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify the requirements and procedures for participating in the audit • identify the purpose and scope of the audit • collect, assess and provide information as required by the audit process • identify and act on inconsistencies or issues which may affect audit processes or outcomes • comply with audit requirements • follow up on audit outcomes.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace program documentation • audit procedures and standards as applied in the workplace • advice on related legislation, industry standards and codes of practice • information systems and data collection technology • reporting formats/requirements • workplace/personnel as required to collect data/observe compliance.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. In addition, the following optional unit may be relevant:</p> <ul style="list-style-type: none"> • BSBRES401A Analyse and present research information.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of</p>

EVIDENCE GUIDE	
	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Audits	Audits may be conducted against workplace programs and/or legislative requirements. Audits may be undertaken for advisory or regulatory purposes and may be led by internal or external auditors
Information collection methods	Information collection methods include: <ul style="list-style-type: none"> • interviews • observation • review of workplace records • accessing relevant technical information
Corrective action plans	A corrective action plan identifies non-conformance, corrective actions, date by which action must be taken and any other follow up requirements

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL3006A Establish compliance requirements for work area

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to identify compliance requirements that apply to work operations in own work area.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a production environment where the experienced operator or supervisor is responsible for ensuring that compliance requirements are identified for work operations. This unit may be applied in relation to compliance requirements of occupational health and safety (OHS), food safety, feed safety or environmental management. At this level, the person would typically work under direction and is required to operate within established compliance procedures.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify compliance requirements	<p>1.1. Existing operating procedures and specifications are reviewed to identify compliance requirements</p> <p>1.2. Enquires are made to supervisors and specialist staff within the workplace to identify compliance requirements</p> <p>1.3. Information from external organisations and regulatory authorities is accessed to determine compliance requirements</p> <p>1.4. The purpose and scope of compliance requirement are identified</p>
2. Establish compliance arrangements in work area	<p>2.1. Compliance requirement is confirmed and communicated to other staff in work area</p> <p>2.2. Briefings, training and other support are sought from internal and external support staff</p> <p>2.3. Procedures for achieving and monitoring compliance in work area are identified in operating procedures</p> <p>2.4. Procedures to follow for non-compliance event are identified</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- review operating procedures, specifications and other workplace data
- identify internal and external support personnel
- identify and locate required information to identify compliance requirements of own work area
- identify procedures to follow for non-compliance events
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the purpose and intent of compliance
- compliance policies and requirements relevant to own work area
- workplace information and related information management systems
- data assessment methods relevant to monitoring compliance of own work area
- purpose and responsibilities for maintaining records

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • identify compliance requirements and procedures for own work area • identify the purpose compliance and consequences of non-compliance • identify and act issues which may affect establishing an effective compliance framework in work area • document compliance outcomes.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • workplace program documentation • compliance procedures and standards as applied in the workplace • advice on related legislation, industry standards and codes of practice • information systems and data collection technology • reporting formats/requirements • workplace/personnel access as required to collect data/observe compliance.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Compliance	<p>Compliance may relate to:</p> <ul style="list-style-type: none"> • requirements of OHS • food safety • feed safety • environmental management
Information collection methods	<p>Information collection methods include:</p> <ul style="list-style-type: none"> • observation • production data • review of workplace records • accessing relevant technical information

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL4001A Manage people in the work area

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to manage people performance issues.
------------------------	---

Application of the Unit

Application of the unit	This unit is appropriate for those with managerial responsibility for other people in a work area. It includes an understanding of different levels of response to performance issues, including formal disciplinary procedures.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
	FDFPPL3003A Support and mentor individuals and groups

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Provide information on performance expectations	<p>1.1. Workplace policies and procedures are current, accessible and in formats appropriate to the audience</p> <p>1.2. Performance-related information is current, accessible and in formats appropriate to the audience</p>
2. Provide coaching and support	<p>2.1. Role models are provided to demonstrate appropriate work behaviours and procedures</p> <p>2.2. Skill development needs are identified and addressed</p>
3. Manage performance issues	<p>3.1. Signs of poor/unacceptable performance are identified</p> <p>3.2. Reasons for poor/unacceptable performance are investigated</p> <p>3.3. Appropriate responsive action is identified and implemented</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- ensure that relevant and appropriate information is available to people in the work area to define performance expectations, including workplace information on policies and procedures and on production targets/work outcomes required of the work role
- ensure that appropriate behaviour/procedures are consistently observed by all workplace personnel in the work area
- establish skill shortages and arrange for these to be addressed, such as direct training/explanation or referral to appropriate personnel
- provide regular feedback to foster confidence and appropriate workplace behaviours, such as providing aggregate information on work performance, e.g. key performance indicators (KPIs), as well as feedback on individual performance and behaviour
- identify indicators of poor or unacceptable work performance and investigate causes
- determine appropriate response within level of responsibility, including recording details of performance issues and response to meet workplace recording requirements
- develop a plan to structure and undertake a formal counselling interview
- demonstrate appropriate interview techniques to counsel in response to a performance management issue
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- workplace feedback and performance management systems and responsibilities in the workplace, including personal level of authority for performance counselling and disciplinary procedures
- company policies, procedures and related communication systems
- the effect of personal style and behaviour on others in the work area, including the importance of establishing effective relationships with people in the work area
- the importance of providing clear information on performance expectations and related communication systems/processes
- signs of poor performance, including patterns or behaviour that may lead to poor

REQUIRED SKILLS AND KNOWLEDGE

performance

- options and strategies to address performance issues, including the difference between competency performance and related responses
- systematic approaches for structuring a discussion on poor performance (at a minimum this includes a clear statement of the problem, an explanation of why it is a problem, the action or change required to address the problem and any follow up action)
- workplace and legal requirements to document instances of poor performance or unacceptable behaviour, including the legal processes that could eventuate and how reported information may be used
- relevant provisions of relevant industrial awards and enterprise agreements on employee rights and responsibilities related to work performance, including the relationship between the award and site agreements
- communication skills to consult and communicate with relevant personnel
- recording systems and requirements

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • identify performance indicators and measures and assess performance against these • identify non-conformances • provide coaching and support to team members according to needs determined by performance outcomes • monitor performance • address poor performance according to organisational guidelines.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • workplace policies and procedures • relevant industrial awards and agreements • workplace information recording systems, requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>The management of people performance issues is consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact of scheduling arrangements</p>
People management	<p>People management may relate to:</p> <ul style="list-style-type: none"> • a specific work area or apply across the workplace according to level of responsibility
Provisions	<p>Provisions to be covered include but are not limited to:</p> <ul style="list-style-type: none"> • work allocation (minimum callouts/hours) • notice periods required to change shifts arrangements/allocations • classification structure relevant to work role/hours of work • leave entitlements • conflict/dispute resolution procedures

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL4002A Plan and coordinate maintenance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan and coordinate maintenance of production equipment.
------------------------	--

Application of the Unit

Application of the unit	This unit is appropriate for production management personnel. It does not require that the person who coordinates maintenance is also responsible for conducting maintenance.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify maintenance requirements	1.1. The approach to maintaining production equipment is identified 1.2. Advice on equipment maintenance requirements is identified and assessed 1.3. Special maintenance requirements are assessed and prioritised
2. Plan maintenance	2.1. Resources required to carry out maintenance are identified and secured 2.2. A maintenance schedule is developed to provide reliable equipment performance with minimal disruption to production 2.3. The maintenance schedule takes account of production schedules, equipment capability, special maintenance requirements and efficient resource utilisation and workplace environmental guidelines 2.4. The maintenance schedule is recorded in the appropriate workplace format 2.5. Responsibilities for implementing the maintenance schedule are defined and communicated 2.6. Work areas and personnel affected by the maintenance program are consulted and advised of maintenance progress
3. Monitor implementation of the maintenance schedule	3.1. Progress of maintenance is monitored to identify variance to schedule 3.2. Unplanned events that could affect the schedule are identified, assessed and addressed 3.3. Potential failure to meet maintenance deadlines are identified and communicated to relevant personnel in a timely manner
4. Contribute to the improvement of equipment reliability	4.1. Equipment performance information is reviewed to identify patterns or trends 4.2. Factors that affect equipment reliability are identified 4.3. Production and maintenance personnel are consulted to identify opportunities to improve equipment reliability 4.4. Action is taken to improve equipment reliability 4.5. The maintenance schedule and related programs and procedures are reviewed to reflect improvements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- describe the company's approach to equipment maintenance
- collect information on equipment maintenance requirements to identify routine lubrication and servicing requirements as appropriate
- analyse equipment maintenance data, such as the use of data analysis techniques to plot and interpret trends and patterns in equipment performance
- identify components of the maintenance program and related responsibilities for implementation, such as equipment monitoring, lubrication schedules, routine servicing and cleaning schedules and breakdown or emergency response (implementation is typically shared between production and maintenance personnel and/or external service providers)
- identify and confirm resource requirements to meet maintenance requirements, including the nature of maintenance tasks involved to identify the required maintenance equipment, materials/consumables and competencies and where required, identify and liaise with external maintenance service providers
- confirm that personnel with the required competencies are available to conduct maintenance activities, such as reporting and/or developing competencies required to implement the maintenance schedule, and where required, manage contracts with maintenance providers
- develop a schedule for equipment maintenance to support reliable equipment performance with minimal disruption to production, including consulting relevant personnel to confirm schedule feasibility, and notifying relevant personnel of any possibility that maintenance cannot be completed within scheduled timeframe
- record and communicate the schedule in appropriate formats, such as use of software, and communicating information to meet workplace and audience requirements
- ensure that operating procedures are available and include information on occupational health and safety (OHS), environmental management and food safety requirements and responsibilities
- monitor maintenance activities against the schedule to identify variances and take appropriate corrective action, such as assessing the consequences of any adjustments to the schedule, and where required, monitor completion of maintenance within maintenance budget constraints
- respond to unplanned events, such as major equipment breakdowns to minimise disruption and optimise efficiency
- communicate maintenance requirements and report outcomes, including ensuring effective communication between production and maintenance personnel to enhance equipment reliability and identify improvement opportunities

REQUIRED SKILLS AND KNOWLEDGE

- use planning and systems control software
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic maintenance approaches and differences between reactive, preventative and proactive maintenance models, such as reliability centred maintenance (RCM) and total productive maintenance (TCM)
- company systems, processes and responsibilities for collecting equipment condition information, analysing information and carrying out required servicing and maintenance tasks
- sources of data on equipment performance and maintenance requirements, related recording systems and data analysis tools
- the requirements of the maintenance scheduling process, including the production process to identify the impact of scheduling on production in order to oversee maintenance activities and establish maintenance priorities
- links to related activities, such as purchasing and contract management
- factors that influence the reliability of equipment, including equipment capability, equipment/process design, and operating conditions and practices
- methods used to measure effectiveness of maintenance including measures of plant availability, cost of maintenance, downtime and alternate resource utilisation
- OHS, environmental and food safety requirements and responsibilities associated with maintenance activities
- relevant personnel and departments to be consulted/notified of maintenance schedule and related amendments, including the information relevant to each group/person
- awareness of conditions that can affect achievement of the maintenance schedule, including conditions that are unusual or unplanned, and related options for response to equipment breakdowns/emergencies
- communication skills to consult and communicate with relevant personnel
- recording systems and requirements, including relevant software packages
- process improvement procedures
- maintenance service supplier capacity

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • determine maintenance requirements for work area • establish and document maintenance schedule • coordinate implementation of maintenance • ensure maintenance schedule is communicated and reported to all appropriate personnel • manage unplanned maintenance issues • assess equipment reliability and contribute to improving outcomes.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • maintenance scheduling system and associated information and communication systems • production equipment • relevant standard operating procedures (SOPs) • workplace information recording systems, requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role. In addition, the following optional or ancillary units may be relevant: <ul style="list-style-type: none"> • FDFPPL4003A Schedule and manage production • FDFPPL4006A Manage a work area within budget • BSBRES401A Analyse and present research information.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where

EVIDENCE GUIDE

	possible, over a number of assessment activities.
--	---

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Maintenance scheduling and work practices	Maintenance scheduling and work practices are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of OHS and environmental impact of scheduling arrangements
Sources of information	<p>Typical sources of information include</p> <ul style="list-style-type: none"> • manufacturers' specifications • equipment capability data • condition monitoring data • equipment operation/performance reports and log sheets • workplace environmental guidelines
Scheduling	<p>Scheduling may involve:</p> <ul style="list-style-type: none"> • the use of planning and systems control software, such as SAP and MRPII
Maintenance schedules	<p>Maintenance schedules may relate to:</p> <ul style="list-style-type: none"> • lubrication schedules • service schedules and major cleaning where cleaning requires equipment dismantling or strip down
Coordination	<p>Coordination may involve:</p> <ul style="list-style-type: none"> • the management of contracts with external maintenance service providers and/or internal maintenance personnel

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFPPL4003A Schedule and manage production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan, monitor and adjust schedules to meet operational requirements.
------------------------	--

Application of the Unit

Application of the unit	This unit is appropriate for production personnel with some responsibility for planning. Production schedules may relate to daily, weekly and/or monthly production.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify production requirements	1.1. Forecast and sales information is used to identify production requirements 1.2. Production priorities are identified to satisfy demand
2. Identify resource requirements to meet production requirements	2.1. Stock levels of raw materials/ingredients, packaging components and consumables are confirmed against production requirements 2.2. Equipment capacity and status and human resources are confirmed against production requirements
3. Develop and communicate the production schedule	3.1. The production schedule is developed to meet demand and delivery timelines within production capacity and budget 3.2. The production schedule takes account of stock levels, storage capacity, equipment capacity and product mix to minimise stock and product holdings and maximise production efficiency 3.3. The production schedule is recorded in the appropriate workplace format 3.4. The production schedule is made available to relevant personnel in a timely manner
4. Monitor actual against scheduled production	4.1. Production is monitored to identify actual and potential barriers to achieving the schedule 4.2. Resource usage rates are monitored to identify potential shortages 4.3. Unplanned events that could affect the schedule are identified, assessed and addressed
5. Adjust production schedules	5.1. Production schedules are adjusted to take account of changed conditions 5.2. Changes to the production schedule are negotiated and communicated to relevant personnel in a timely manner 5.3. Resource implications of amended schedules are identified and resources are accessed to meet requirements 5.4. Potential failure to meet delivery deadlines are identified and communicated to relevant personnel in a timely manner 5.5. Schedule documentation is amended as required to meet workplace reporting requirements
6. Review production schedule	6.1. The production scheduling process is reviewed to

ELEMENT	PERFORMANCE CRITERIA
development process	identify opportunities for improvement 6.2. Variances in production against schedule are identified, investigated and reported 6.3. Personnel responsible for implementing the schedule are consulted to identify improvement opportunities 6.4. The scheduling process is revised to reflect improvements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- collect and interpret sales and/or market forecast information, such as liaising with sales departments/functions and/or direct contact with customers
- identify production priorities to meet customer/market expectations
- identify and confirm resource requirements to meet the schedule, such as stock levels, equipment availability and capacity, personnel, storage capacity, and transport, and where required, identify alternate sources of supply for resources in short supply
- develop a schedule to match production priorities to available resources, such as consulting relevant personnel to confirm schedule feasibility, and notifying relevant personnel of any possibility that demand cannot be met within required timeframe
- record and communicate the schedule in appropriate formats, such as use of software and communicating information to meet workplace and audience requirements
- monitor actual production and materials usage levels against production plan to identify variances and take appropriate corrective action, including assessing the consequences of any adjustments to the schedule for the customer, the company and resource availability
- adjust the schedule in response to typical and atypical variables affecting achievement of schedule
- respond to unplanned events to minimise disruption and optimise efficiency
- confirm that resources and personnel are available to meet amended schedule and, if not, take action to secure requirements
- communicate schedule changes to affected personnel
- track and investigate variance to identify cause
- follow review procedures to identify opportunities to improve scheduling process
- follow procedures to adopt and communicate improvements to the scheduling process
- use planning and systems control software according to enterprise procedures
- match work allocation to competencies available in the work team according to enterprise procedures
- use communication skills to interpret and complete work information to support operations of work team or area
- use communication skills to consult and communicate with relevant personnel
- demonstrate and support cooperative work practices within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- the role and scope of the scheduling function, including flow of information to and from the scheduling process and the impact of scheduling for related planning, purchasing, production and despatch processes
- factors to be taken into account in planning the schedule, including the inter-relationships between factors, such as:
 - customer requirements
 - stock levels and supply options
 - use-by codes
 - production capacity and availability
 - labour requirements and availability
 - product compatibility
 - capacity of related processes and/or storage facilities
 - transport capacity
- consequences of failing to meet delivery timelines (this may differ according to customers and may include stock-out fines in addition to damage to customer relationships)
- the company's preferred approach to managing customer relations
- the characteristics of raw materials/ingredients, packaging components and consumables and production process to determine the most efficient plan to meet production requirements, including stock shelf-life, product compatibility (with the exception of dedicated product lines) and changeover procedures
- equipment capacity to ensure that production quantities and timelines are achievable
- methods used to monitor actual to planned production, such as use of systems software and key performance indicators (KPIs) where these are collected on a real time basis
- relevant personnel and departments to be consulted/notified of production schedule and related amendments, including the information relevant to each group/person
- awareness of conditions that can affect achievement of schedule, including conditions that are unusual or unplanned and related options for response
- options for maximising resource utilisation and minimising waste, including options for alternate resource allocation in response to unplanned events
- recording systems and requirements
- process improvement procedures
- supplier capacity and timeframes where relevant
- competencies required by the work process and competencies held by the work team where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm production requirements and resource implications • establish and document production schedule • coordinate implementation of schedule • ensure production schedule is communicated and reported to all appropriate personnel • manage unplanned production issues • assess production outcomes against schedule and make required adjustments.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • scheduling system and associated information and communication systems • production area and related functions and resources • relevant standard operating procedures (SOPs) • workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFPPL4006A Manage a work area within budget • BSBRES401A Analyse and present research information.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Production scheduling is consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact of scheduling arrangements
Scheduling	<p>Scheduling may involve:</p> <ul style="list-style-type: none"> the use of planning and systems control software, such as SAP and MRPII
Schedules	<p>Schedules may be based on:</p> <ul style="list-style-type: none"> customer orders and/or market forecasts

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL4004A Optimise a work process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to assess, investigate and make recommendations to optimise the performance of a work process, system or area.
------------------------	---

Application of the Unit

Application of the unit	This unit typically applies to people responsible for facilitation of consultation and performance improvement processes.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFPPL3001A	Participate in improvement processes

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify work process scope	1.1. The scope and flow of the work process is identified 1.2. Work process information is identified and collected
2. Assess work process performance	2.1. Work process performance is assessed against plan and benchmark information 2.2. Variations in work process performance are identified and investigated 2.3. Opportunities for improvement are identified
3. Develop a plan to optimise process performance	3.1. Recommendations for improvements are developed and reported in the appropriate format 3.2. An implementation plan is developed and presented in the appropriate format
4. Implement, monitor and evaluate process improvement	4.1. Workplace documentation is reviewed to reflect process improvement 4.2. Changes to roles and responsibilities of workplace personnel involved in implementing the optimisation plan are identified and communicated 4.3. Resources to support implementation are identified, negotiated and secured 4.4. Process changes are implemented and monitored 4.5. Continuous improvement procedures are applied to evaluate and refine process optimisation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- define the purpose and scope of the work process and develop a process map/workflow diagram, including information on the steps in the process under examination and the interaction of the process with related customers and suppliers
- identify steps in the process or conditions that result in workflow blockages or sub-optimal performance (this is typically undertaken in consultation with process operators)
- use workplace data to develop/confirm process performance information, such as historical information on process and equipment performance (where processes are seasonal, it should include reference to similar points in the cycle for comparative purposes)
- identify criteria against which to assess process performance, such as performance plans/targets, equipment operating capacity, process capability and relevant benchmark information as appropriate/available
- assess process performance information against agreed criteria
- identify sub-optimal performance events and/or patterns and investigate causes, such as facilitation of an investigation team
- identify opportunities to remove or minimise causes of sub-optimal process performance
- evaluate opportunities and assess related costs/benefits for each option
- recommend preferred options and report recommendations in the required workplace format
- develop an implementation plan, including identifying resource requirements, personnel affected and appropriate communication strategy, revised/new workplace documentation and evaluation/review process
- negotiate and secure resources to support implementation
- communicate proposals/implementation plan, invite feedback and take feedback into account
- follow continuous process procedures and monitor and review changes against improvement criteria
- trial changes prior to full implementation
- arrange training/development opportunities
- use communication skills to interpret and complete work information to support operations of work team or area, facilitate consultation processes and report, record and present information in the required formats
- demonstrate and support cooperative work practices within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE**Required knowledge*****Knowledge of:***

- process/workflow mapping purpose and techniques
- characteristics of the work process, including typical factors that affect process performance, such as:
 - fluctuations in demand/throughput
 - quality of raw material/ingredient inputs
 - human resources availability/competencies
 - equipment configuration, capacity and performance
 - process capability
 - changeover times
 - cost of services
- criteria against which to assess performance, such as key performance indicators (KPIs), production plans/schedules, budgets and relevant benchmark information
- technical knowledge to identify and assess current performance and identify improvement opportunities and proposals
- process improvement tools and techniques
- related workplace documentation and systems
- relevant personnel and departments to be consulted/notified of optimisation implementation plan
- recording systems and requirements

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • establish parameters of work process • analyse performance measures and identify opportunities for improvement • develop plan to optimise work process • appropriately engage other personnel in plan implementation • monitor implementation and analyse outcomes • engage continuous improvement processes to sustain and improve outcomes.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • information storage and retrieval systems • relevant workplace records and benchmarking information • opportunities to interact with others using typical workplace communication processes • workplace systems and procedures for consultation, feedback and continuous improvement.
Method of assessment	This unit should be assessed together with core units and other units of competence relevant to the function or work role. In addition, the following optional or ancillary units may be relevant: <ul style="list-style-type: none"> • FDFPPL3004A Lead work teams and groups • BSBRES4001 Analyse and present research information.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where

EVIDENCE GUIDE

possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Policies and procedures</p>	<p>Changes introduced through process optimisation are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, workplace environmental guidelines, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact of scheduling arrangements</p>
<p>Work process information</p>	<p>Work process information includes but is not limited to:</p> <ul style="list-style-type: none"> • historical data on performance of process and equipment • costs • raw materials/ingredient grades and suppliers • packaging components/consumables type and suppliers • energy efficiency • labour efficiency • resource/service costs • throughput times • changeover times
<p>Options for process optimisation</p>	<p>Options for process optimisation may include but are not limited to:</p> <ul style="list-style-type: none"> • removing unnecessary process steps • improving communication • changing raw materials/ingredients and/or packaging components/consumables grades/types • changing work practices and/or equipment • changing labour allocation/skill composition

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL4005A Establish process capability

Modification History

November 2011: inclusion of correct prerequisite.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to study process data to determine process capability using statistical process control techniques.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to people responsible for establishing control charts and related sampling plans.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2015A	Apply principles of statistical process control* <i>FDFOP2061A Use numerical applications in the workplace</i>
	FDFTEC4007A	Describe and analyse data using mathematical principles

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to conduct a capability study	1.1. The scope and purpose of the process is identified 1.2. A representative data sample is determined 1.3. Data collection techniques are selected 1.4. Data is collected to meet sampling requirements
2. Analyse data to determine process capability	2.1. Appropriate statistical analysis techniques are selected and applied 2.2. Process stability and extent of variation are identified 2.3. The target mean for the process is identified 2.4. Process control parameters are calculated 2.5. Related data sampling requirements are specified

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- establish process scope, boundaries and related information on process purpose, such as documentation, including product or process specifications where available
- apply sampling techniques to determine nature and extent of data collection to provide a reliable indication of process performance
- select and apply data collection methods (where data collection is automated, this may involve use of software and where data collection is to be carried out by operators, it involves communicating requirements and designing appropriate formats for recording data)
- confirm that data collected is complete and complies with sampling requirements
- identify characteristics of a normal distribution
- apply appropriate statistical techniques, including standard deviation to analyse data, and techniques to distinguish common and special causes of variation
- establish process capability, including establishing upper and lower limits and instructions for identifying and responding to trends
- develop a related data sampling plan, including advice on sampling regimes following corrective action
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- data collection requirements and techniques for collection of actual (quantitative) and variable data
- techniques to determine and validate a sampling plan capable of providing reliable information representative of the total population
- appropriate formats for presenting sampling plan requirements and related communication systems
- workplace conventions/formats for presenting and monitoring process capability information, such as control chart including a target mean, upper and lower limits and advice on how to interpret and confirm trends, and upper and lower warning limits where required
- process knowledge to identify possible causes of special variation
- the difference between a stable process and a capable process and action required to improve process performance in each case

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • determine scope of and purpose of study • establish data collection parameters • select data collection technique • collect and analyse data • determine process capability • complete workplace records as required • apply safe work practices and identify occupational health and safety (OHS) hazards and controls.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace processes and procedures • workplace documentation, including process specifications/purpose, sampling plan and control chart formats, and related data collection methods, such as log sheets • data collection and analysis software and systems as appropriate • communication systems.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Data collection	Data collection is specified and may be collected by others
Data analysis	Data analysis typically involves the use of statistical analysis software

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL4006A Manage a work area within budget

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan, allocate and monitor work to achieve required outcomes within budget allocations.
------------------------	---

Application of the Unit

Application of the unit	This unit would typically apply to a team leader function where the team leader is required to reach decisions on resource utilisation within budget constraints.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and plan within budget parameters	<p>1.1. Budget requirements and parameters are identified</p> <p>1.2. Resources are identified, confirmed and allocated to achieve production schedule within budget</p>
2. Monitor resource utilisation against budget	<p>2.1. Performance is monitored to identify actual/potential variance to budget</p> <p>2.2. Variances to budget are identified, investigated and reported according to workplace reporting requirements</p> <p>2.3. Potential failure to achieve targets within budget are identified and communicated to appropriate personnel in a timely manner</p> <p>2.4. Action is taken to minimise negative impact of variance</p>
3. Communicate budget information	<p>3.1. Budget information is made available to relevant personnel in a timely manner</p> <p>3.2. Budget information is reported in the appropriate format and timelines according to workplace reporting requirements</p> <p>3.3. Contributions are made to the development of workplace budgets</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify budgets relevant to the work function and role
- identify resource requirements of the production process and match these to availability, to options and constraints (this depends on the nature of budget management, for example, when applied to managing within labour costs, availability includes available numbers and skill levels of operators; options may include use of permanents, overtime and/or casuals, and constraints may include the relative costs associated with each of these options)
- secure, confirm and allocate required resources to meet production schedule within budget parameters
- monitor resource utilisation to confirm capability to achieve production schedule within existing resource allocation, which may require calculation of yield
- interpret budgets to track performance outcomes
- identify situations where achievement of required outcomes within budget is not possible
- investigate causes of variance and take appropriate action within level of responsibility
- identify the impact on budget of production-related decisions, such as structuring rosters and scheduling holidays, adjusting production volume, and scheduling equipment maintenance
- identify opportunities to improve performance against budget
- communicate information on budget performance to others in the work area, such as providing information on key performance indicators (KPIs)
- record and report budget information in the required formats
- participate in budget development processes within level of responsibility
- use communication skills to interpret and complete work information to support operations of work team or area, and to consult and communicate with relevant personnel
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- the basis on which budgets developed for the work area are constructed, including information supplied to budget planners, and how to read and interpret budget information and apply it to monitoring/reviewing work performance
- basic accounting concepts, including fixed and variable costs, rate of return,

REQUIRED SKILLS AND KNOWLEDGE

- methods of allocating indirect costs, methods of measuring investment value
- accounting models, including the difference between traditional accounting approaches and more recent developments, and accounting implications of value added management, life-cycle costing and triple bottom line
- company approach to cost management so that decisions on resource allocation are within both budget allocations and company philosophy/preferred approach
- resource requirements to meet production and related costs
- process knowledge to identify factors likely to impact on achieving budget
- relevant personnel and departments to be consulted/advised of budget information, including information relevant to each group/person and the importance of providing accurate and timely information to each of the stakeholders
- options for maximising resource utilisation and minimising costs
- recording systems and requirements
- process improvement procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • determine resource requirements for work area • establish budget and allocations for work area • monitor performance against budget targets and promptly identify and act on variances to minimise impact • ensure budget is communicated and reported to all appropriate personnel.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • budgets and associated information and communication systems • production area and related functions and resources • relevant Standard Operating Procedures (SOPs) • workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFPPL4003A Schedule and manage production • BSBRES4001A Analyse and present research information.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work planning and allocation to achieve outcomes within budget is consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact of scheduling arrangements</p>
Budgets	<p>Budgets may include but are not limited to:</p> <ul style="list-style-type: none"> • addressing labour costs • materials costs • yield/volume and related efficiency parameters • equipment costs • handling, storage and transport costs
Communication of budget information	<p>Communication of budget information includes:</p> <ul style="list-style-type: none"> • consulting the work team on budget related issues • providing prompt information on performance against budget • reporting budget information to relevant personnel in the required format

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFPPL4007A Manage supplier agreements and contracts

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to manage internal and external agreements for the supply of goods and/or services.
------------------------	--

Application of the Unit

Application of the unit	This unit can apply to the evaluation and management of existing contractual arrangements and the development of new arrangements. It requires an understanding of supply chain relationships and arrangements.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish contractual arrangements	1.1. Specifications for the delivery of goods and/or services are documented and agreed 1.2. Criteria for selection of suppliers are developed and documented 1.3. Potential suppliers are identified and assessed against selection criteria 1.4. Supply contracts are documented and agreed by the parties 1.5. Contingency plans are developed in the event of supplier failure to deliver
2. Administer and evaluate delivery of goods and/or services against agreements	2.1. The quality of goods and services supplied is assessed against specifications 2.2. Non-compliance is identified, documented and corrective action is implemented within the terms of contractual arrangements 2.3. Relationships with suppliers are managed to support effective delivery 2.4. Vendor agreements are reviewed and renegotiated as required to ensure timely delivery and cost-effective supply of quality goods and services

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify the system in place to support management of supplier relationships, agreements and contracts, including goods and services specifications, existing vendor agreements and contracts, traceability systems and procedures, receivables procedures, invoicing system and related documentation, and where required, identify existing system features and/or identify system requirements and develop appropriate system components
- identify and/or develop criteria for selection of suppliers (the criteria should reflect the company's approach to supply chain management and take account of existing procurement policies, including any preferred supplier arrangements as well as historical experience with suppliers)
- identify current and potential suppliers with the capacity to meet supplier criteria
- establish a contingency supply plan in the event of failure to deliver within the terms of the agreement
- identify and/or develop a goods/service agreement to address company requirements
- identify and/or establish procedures to negotiate the terms of the agreement with the supplier, within level of responsibility
- identify and/or establish procedures to receive and evaluate goods/services against agreed criteria, including procedures for responding where goods/services are not within specification, within level of authority
- identify and/or establish recording and communication systems to document contract compliance issues
- monitor that contractors working on-site are inducted and aware of their roles and responsibilities according to enterprise procedures
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- approaches to supply chain management, including customer-led models, such as efficient consumer response (ECR), the contrast between independent company operations versus chain partnership arrangements, and the implications of a supply chain approach for the nature of the relationships between the company and its suppliers, including level of information sharing and cooperation

REQUIRED SKILLS AND KNOWLEDGE

- the company's approach to supply chain management, and related systems and documentation in place to support internal management and supplier relationship management, including levels of authority
- appropriate technical knowledge to determine capacity of a supplier to deliver and to assess quality of goods/service supplied (this may be addressed by identifying relevant technical expertise, such as a quality/laboratory function)
- legal rights and responsibilities of both the company and the supplier
- the role of benchmarking in determining appropriate criteria for supplier selection and contract management
- appropriate measures of contract delivery and relative importance/weighting given by the company
- induction and duty of care responsibilities for contractors working on-site where relevant

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • determine resource requirements for work area • establish contractual conditions and determine most suitable supplier • monitor supply against agreements and contracts and promptly identify and act on variances • establish supply contingencies • maintain relationships with suppliers to support service.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • workplace procurement policies and related documentation and systems • relevant legislation, codes of practice and agreements • access to suppliers of goods and services • information management systems, including planning, recording and reporting systems • technical support and advice as appropriate.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Service agreements

Service agreements are consistent with company policy objectives, legislative requirements, industry standards, codes and guidelines, industrial awards and agreements

Unit Sector(s)

Unit sector

People management/planning/logistics

Competency field

Competency field

Co-requisite units

Co-requisite units		

FDFPPL4008A Manage internal audits

Modification History

November 2011: update to imported unit, minor typographical error corrected.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to support the management of internal audit processes across a range of programs, including but not limited to occupational health and safety (OHS), quality and environmental management.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is appropriate where internal audit processes are conducted to support externally audited programs. Auditing must occur in an area that the person is not directly responsible for and where they are required to follow a formal, structured process. In addition to this standard, an auditor would typically work within the audit procedures as outlined in ISO 10011.</p> <p>When conducting a food safety audit, FDFAU4003A Conduct food safety audits, should be used.</p> <p>When applied to the pharmaceutical industry, FDFPH2001A Apply Good Manufacturing Practice procedures should be selected to support the application of this unit. FDFPH2001A incorporates content covered in FDFOP2063A Apply quality systems and procedures and can be used as an alternative to this prerequisite unit for the pharmaceutical manufacturing sector.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOHS2001A	Participate in OHS processes
	FDFOP2063A	Apply quality systems and procedures
	FDFPPL3005A	Participate in an audit process
	MSAENV272B	Participate in environmentally sustainable work practices

Employability Skills Information

Employability skills	
	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan an audit	1.1. The purpose and scope of the audit is negotiated and agreed 1.2. Information and resources required to conduct the audit are identified and secured 1.3. An audit schedule is developed and negotiated to meet audit scope and timelines
2. Prepare for an audit	2.1. Audit information sample and collection tools are determined 2.2. Roles, responsibilities and authority levels of the audit team are identified and communicated to audit team members as appropriate 2.3. Affected work areas/personnel are informed of schedule and advised of their role in the process
3. Monitor the audit process	3.1. Information collected is adequate, representative and meets audit requirements 3.2. Information is analysed to assess adequacy of performance against program objectives 3.3. Records are reviewed to confirm compliance with the program 3.4. Compliance with the program is observed in the workplace 3.5. Areas requiring corrective action are identified 3.6. Obstacles to achieving audit within agreed timelines are identified and addressed
4. Report and follow up audit outcomes	4.1. Situations presenting an imminent and serious risk to the program objectives are identified and reported immediately in accordance with reporting requirements 4.2. Audit reports are prepared to address audit scope requirements 4.3. The results of the audit are communicated to appropriate personnel according to audit purpose and requirements 4.4. A corrective action plan is developed and negotiated within level of responsibility 4.5. Implementation of corrective action as set out in the corrective action plan is monitored and confirmed 4.6. Where corrective action does not meet the corrective action plan requirements, follow up action is taken/reported according to level of responsibility

ELEMENT	PERFORMANCE CRITERIA
	and audit purpose

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify roles and responsibilities of personnel participating in the audit process
- establish and negotiate audit purpose and scope to meet the workplace and legislative requirements
- clarify program objectives and evaluation criteria to be applied, where appropriate, this includes identifying legal compliance requirements
- establish the audit sequence, activities and timelines
- identify roles, responsibilities and competencies required to conduct an audit and confirm that the required competencies are available within the project team, where appropriate
- identify and locate information required to conduct the audit
- review workplace documentation to confirm that required information is available
- select and apply appropriate data collection tools to provide information on both program outcomes and processes
- establish an audit plan and timetable and communicate the plan to relevant work areas/personnel, including allocating tasks to match requirements of the audit and competencies of the audit team
- assess information collected against program objectives and evaluation criteria to identify compliance/non-compliance
- identify any changes that have occurred in the workplace since initiating the program or since the last program audit that could affect program outcomes
- identify, investigate and record evidence of non-compliance
- assess severity of non-compliance and take immediate action to report non-compliance that presents an imminent and serious risk to achievement of program objectives (action must comply with company audit procedures and with legal responsibilities where relevant)
- based on the audit findings, assess the adequacy of the program under review, including verifying that information used to establish methods of controlling hazards is adequate and correct (technical experts/accessing external technical resources may be used to support verification. conclusions on audit outcomes should be objective and capable of duplication, given the evidence collected)
- where findings indicate either a failure to comply with the program or inadequacy of the program, investigate and determine the causes of non-conformance and identify corrective action requirements
- communicate audit findings, including corrective actions and timeframes with relevant work areas/personnel, such as negotiating/securing required resources
- report the findings of the audit in an appropriate format to meet the requirements of

REQUIRED SKILLS AND KNOWLEDGE

the workplace and legal compliance where relevant

- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- the purpose and intent of the program being audited, including the requirements of relevant national, state and local government legislation relating to program purpose and requirements
- auditor roles, responsibilities and legal obligations as relevant to the audit purpose, including the responsibilities of both internal and external auditors, and the different types of auditors and of authorised officers who may be involved in the audit program
- legal responsibilities for reporting imminent and serious non-conformities
- requirements and procedures for certification/registration of auditors and authorised officers according to audit type
- the frequency and scope of audit requirements to meet legal obligations
- appropriate ethical conduct of auditors as set out in codes of ethics of auditors and additional requirements as may be determined by the workplace
- the purpose and stages involved in the audit process, such as compliance with ISO audit standards as appropriate to audit requirements
- workplace information and related information management systems
- techniques for collecting information, including appropriate sampling techniques, information collection methods and the strengths and weaknesses of each method to ensure data is adequate and representative, as well as an understanding of techniques identified by ISO 10011
- data analysis methods relevant to the audit process
- communication skills and techniques, such as appropriate questioning, observation and related communication skills to support information collection, appropriate to the workplace
- technical knowledge relevant to the program being audited in order to verify the adequacy of:
 - hazard identification processes
 - control methods, including industry standards/practice
 - monitoring and record keeping
 - validation processes
 - corrective action/process improvement procedures
- where program control methods or limits vary from industry standards or where there are no industry standards, technical knowledge required to assess data used by the business to validate acceptable limits (this may be addressed by identifying

REQUIRED SKILLS AND KNOWLEDGE

and involving appropriate technical expertise)

- | |
|---|
| <ul style="list-style-type: none">• competency standards and related assessment and training options to support program implementation• information management and communication systems to document and communicate audit outcomes in appropriate formats |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • determine scope of and purpose of audit • schedule audit and make required arrangements • establish information collection parameters • select information collection techniques • collect and analyse information • ensure compliance • develop and communicate required corrective action plan • complete workplace records as required • apply safe work practices and identify OHS hazards and controls.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace program and related documentation • relevant legislation • audit procedures and standards, including any external standards relevant to the audit, such as ISO standards • advice on related technical industry standards and codes of practice • information systems and data collection technology • reporting formats/requirements • workplace/personnel access as required to collect data/observe compliance.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. In addition, the following optional units may be relevant:</p> <ul style="list-style-type: none"> • FDFOP2015A Apply principles of statistical process

EVIDENCE GUIDE	
	<p>control</p> <ul style="list-style-type: none"> • FDFPPL3004A Lead work teams and groups • FDFPPL5001A Design and maintain programs to support legal compliance • BSBRES4001A Analyse and present research information. <p>For information on how to assess this unit of competency and who can assess, refer to the Assessment Guidelines for this Training Package. For some types of audits, auditors are required to comply with assessment arrangements specified by relevant regulatory bodies. Where this is the case, these separate assessment requirements must also be met.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Audits	<p>Audits may be</p> <ul style="list-style-type: none"> • conducted against workplace programs and/or legislative requirements • undertaken for advisory or regulatory purposes and may be led by internal or external auditors • conducted by individuals or involve an audit team
Corrective action plan	<p>A corrective action plan identifies:</p> <ul style="list-style-type: none"> • non-conformance • corrective actions • date by which action must be taken • any other follow up requirements <p>Depending on the nature and scope of an audit, the auditor may not be responsible for identifying appropriate corrective action. However, it is a requirement that they have the technical knowledge to do so or involve a technical expert</p>
Communication skills and techniques	<p>Appropriate communication skills and techniques must take account of English language, literacy and technical skill base of workplace personnel</p>
Information collection	<p>Information collection typically includes:</p> <ul style="list-style-type: none"> • reviewing workplace records • conducting interviews • observing workplace practice • collecting other relevant information as required
Procedures and techniques	<p>Detailed procedures and techniques for conducting audits are currently defined by ISO 10011 (this standard is under review)</p>

Unit Sector(s)

Unit sector	People management/planning/logistics
-------------	--------------------------------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFPPL5001A Design and maintain programs to support legal compliance

Modification History

November 2011: update to imported unit, minor typographical error corrected.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to design, review and maintain programs to support policy implementation and regulatory compliance. Programs involve hazard identification, risk assessment and control.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to areas, such as occupational health and safety (OHS), environmental management, food safety, quality and Good Manufacturing Practice (GMP). In workplaces where workplace programs are already in place, the outcomes of this unit can apply to the assessment and review of such programs.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS2001A	Implement the food safety program and procedures
	FDFFS3001A	Monitor the implementation of quality and food safety programs

Prerequisite units		
	FDFOHS4002A	Maintain OHS processes
	FDFTEC3001A	Participate in a HACCP team
	MSAENV472B	Implement and monitor environmentally sustainable work practices

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish workplace program and operating requirements	1.1. The workplace program reflects workplace policy objectives 1.2. Roles and responsibilities to support implementation are identified, negotiated and agreed 1.3. Resources required to support implementation are identified and secured
2. Establish/review consultative arrangements	2.1. Consultative mechanisms are established to encourage input from workplace personnel and their representatives 2.2. Information on consultation processes is available, appropriate and accessible 2.3. Procedures are established to ensure that issues raised are promptly addressed 2.4. Procedures are established to ensure that the outcomes of consultation are promptly communicated
3. Develop/review program procedures	3.1. Procedures outline the process for identifying and reporting actual and potential hazards 3.2. Risk assessment and control measures are documented and take account of the hierarchy of control 3.3. Corrective action and emergency response procedures are defined 3.4. Procedures to review program adequacy and effectiveness are established 3.5. Program implementation is monitored to ensure procedures are followed and effective
4. Establish/review program information and recording systems	4.1. Information is recorded to meet program and legislative requirements 4.2. Record formats and systems are appropriate and accessible to users
5. Establish/review development/training arrangements to support program implementation and maintenance	5.1. Roles and responsibilities of participants involved in implementing the program are identified 5.2. Mentoring, coaching and training requirements for each role are identified 5.3. Mentoring, coaching and training support is provided to meet the needs identified
6. Maintain a workplace	6.1. Information on program purpose, requirements,

ELEMENT	PERFORMANCE CRITERIA
program	<p>roles and responsibilities is provided in formats appropriate to purpose and audience</p> <p>6.2. Program procedures are followed and supervisory responsibilities are identified and addressed</p> <p>6.3. Workplace program records are analysed to identify patterns of non-conformance and opportunities for ongoing improvement</p> <p>6.4. Hazard identification, risk assessment and control are addressed when planning, designing and reviewing change in the workplace</p> <p>6.5. Evaluation of program effectiveness takes account of developments in best practice to support continuous program improvement</p> <p>6.6. Program audit procedures are established and communicated</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify roles and responsibilities for program development and maintenance, where appropriate this includes negotiating/confirming levels of authority
- identify and report on resource requirements to support implementation, such as human resources, capital equipment, training, support systems (e.g. maintenance and financial support), and where relevant, negotiate access to resources within level of responsibility
- confirm that personnel involved in implementation have the required skills and knowledge to carry out their role, including identifying and addressing skill gaps
- review strategies for provision of information to identify opportunities for improvement in conveying information appropriate to program requirements and the audience to ensure that information is accessible to and understandable by all employees
- establish and/or review consultative arrangements to confirm that they are effective channels of two-way information and forums for raising issues and generating ideas, that all areas and levels of the workgroup have opportunity for input, and there is feedback to contributors on the outcome of consultation
- develop/review procedures to support implementation (procedures must be documented and documents must be controlled, which may require the development of an appropriate system for recording and managing procedures)
- establish/review monitoring mechanisms to ensure that records are accurate and timely
- establish/review procedures to ensure that records and related program information are utilised to support program improvement
- trial/review implementation of procedures and identify opportunities for improvement
- use communication skills to interpret and complete work information to support operations of work team or area, and to support a review of existing information and/or design of information formats to meet program and audience requirements
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- objectives of legislation, regulations and relevant codes of practice relating to the program area, including the roles of relevant regulatory bodies
- company policy objectives, related legal requirements and workplace context,

REQUIRED SKILLS AND KNOWLEDGE

including resource capacity, authority levels, existing systems and processes, such as consultation processes, development/training systems, process improvement, document control and recording requirements

- workplace program objectives, their relationship to policy objectives and to related programs, including the benefits of the program for the company, employees and the wider community as appropriate
- the concept of a management systems as it applies to the program area
- the advantages and disadvantages of stand-alone and integrated programs, including variations in legal obligations and compliance systems, objectives and structure of related policies and programs, as well as consideration of audit trails, as appropriate
- principles and processes for hazard identification, risk assessment and control
- the program area and/or internal and external experts and resources to support design and implementation
- the circumstances, conditions or practices likely to result in program non-compliance and related control options
- technical knowledge and/or access to technical expertise to ensure adequacy of risk control methods and response to non-compliance/emergencies
- problem solving and process improvement techniques and processes
- program review methods and responsibilities, including internal audit arrangements, as well as external audit arrangements, and where the program supports legal compliance obligations, requirements and frequency of audits

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • define the parameters of the program • determine compliance requirements for program and conduct risk analysis • identify and engage relevant personnel through consultative mechanisms • design/develop program procedures to ensure compliance is achieved • complete detailed reporting to support the maintenance of compliance • provide support to personnel to ensure compliance • program is reviewed and monitored to ensure compliance is maintained.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace policies, business and performance plans and budgets • relevant legislation, codes of practice and agreements • workplace procedures and related management systems relevant to the program area • technical support and advice as appropriate to the program area • consultative forums.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFPPL3003A Support and mentor individuals and groups • FDFPPL4008A Manage internal audits • BSBRES4001A Analyse and present research

EVIDENCE GUIDE	
	information <ul style="list-style-type: none">• BSBINN502A Build and sustain an innovative work environment.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Workplace programs	Workplace programs are developed to meet company policy objectives and are consistent with legislative requirements, codes, industrial awards and agreements, licensing arrangements and contractual arrangements and agreements
Programs and related documentation	Programs and related documentation may be: <ul style="list-style-type: none"> stand-alone or integrated
Program design	Program design takes account of contextual issues including: <ul style="list-style-type: none"> legislative responsibilities workplace culture budgets and people, including language and literacy levels of program users
Management systems	Management systems to support program implementation include: <ul style="list-style-type: none"> organisational structure planning activities responsibilities practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the policy, managing the risks associated with the activities conducted in the workplace
Formal responsibility	Formal responsibility for program design and/or review may be shared with others

Unit Sector(s)

Unit sector	People management/planning/logistics
--------------------	--------------------------------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB1001A Finish products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to assemble baked products and prepare and apply sweet fillings, icing and toppings, simple decoration and related presentation techniques used to finish cakes, pastries and bread-based products.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry. It typically targets the worker responsible for finishing and preparing baked products using a range of finishing tools and equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to finish products	<p>1.1. Ingredients are confirmed and available to meet finishing requirements</p> <p>1.2. Equipment is checked to confirm readiness for use</p> <p>1.3. Finishing materials are prepared to meet product finishing requirements</p>
2. Assemble and finish products	<p>2.1. Finishing materials are applied to meet presentation requirements</p> <p>2.2. Finished product meets presentation requirements</p> <p>2.3. Unacceptable product is identified, rectified or reported</p> <p>2.4. Products are assembled to meet customer and quality requirements</p> <p>2.5. Housekeeping standards are maintained in the workplace</p> <p>2.6. Work is conducted in accordance with workplace environmental guidelines</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify finishing requirements
- confirm condition, type, quality and quantity of ingredients and prepared finishing materials
- confirm that required fillings, toppings and finishing materials are available
- confirm that equipment required is available, clean and fit for use
- mix or prepare finishing materials as required, such as weighing or measuring ingredients to recipe specifications
- assemble product and apply fillings and finishing materials (assembly requirements depend on product) using appropriate finishing techniques
- take corrective action to ensure that finished product meets quality standards
- clean equipment and utensils to meet hygiene standards
- complete workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of assembling products and preparing and applying fillings and decorative finishes
- recognition of ingredients and storage requirements
- required characteristics of prepared finishing materials
- acceptable standards for equipment/utensils used, including cleaning requirements and signs of wear or unacceptable damage (where measuring equipment is used, it may also include procedures, such as taring of scales)
- the effect of variables, such as temperature of the product on the application of finishings
- application and decoration techniques, such as simple piping and placement
- product presentation and storage requirements, such as refrigeration, freezing and shelf-life
- causes of unacceptable finishes and corrective action required
- occupational health and safety (OHS) hazards and controls

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm readiness of equipment and ingredients used to finish product • confirm finishing requirements • complete finishing according to requirements • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on relevant finishing requirements, safe work practices, food safety, quality and environmental requirements • recipe for preparation of finishing materials where required and decoration instructions • final product specifications and related inspection/control points • finishing application utensils and equipment as required by product • product to be decorated, fillings and finishing materials/ingredients • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or</p>

EVIDENCE GUIDE	
	work role. An example could be: <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written operating procedures • specifications • production schedules • batch/recipe instructions
Finishing materials	<p>Finishing materials may include but are not limited to:</p> <ul style="list-style-type: none"> • fresh, mock or butter cream • icing sugar • glazes and similar fillings and coverings
Finishing techniques	<p>Finishing techniques may include:</p> <ul style="list-style-type: none"> • application of icings • simple piping • placement and covering and preparation of cakes ready for final decoration • filling, rolling and slicing product • assembling multi-layered products • prepare a cake ready for icing

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spreading materials evenly and consistently • selecting correct piping bag nozzle and controlling piping • cutting product into even size slices
Equipment	Equipment may include: <ul style="list-style-type: none"> • piping bags and nozzles • mixing bowls • application utensils, such as spatulas
Simple decorating	Simple decorating is completed to a given specification and does not include design

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB2001A Form and fill pastry products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to form pastry and deposit fillings into a pastry shell or onto a pastry sheet which may then be topped according to product requirements.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to form and fill processes in an in-store or retail bakery environment. Forming, filling, depositing and trimming of pastry products may be done manually or mechanically.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to fill and form pastry products	1.1. Pastry and fillings are confirmed and available to meet production requirements 1.2. Forming and filling equipment and/or utensils are available and ready for use 1.3. Equipment is checked to confirm readiness for use
2. Form and fill pastry products	2.1. Pastry is rolled and shaped to meet product requirements 2.2. Pastry is filled to meet product requirements 2.3. Tops and/or finishes are applied as required 2.4. Filled pastry product meets food safety and quality requirements 2.5. Unacceptable product is identified, rectified or reported
3. Clean equipment	3.1. Equipment is cleaned to meet production and hygiene requirements 3.2. The work area is maintained according to housekeeping standards 3.3. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify production requirements
- confirm that pastry types and fillings match product requirements
- confirm that equipment is clean and in operating order, including confirming that trays and tins are available as required
- prepare pastry and fillings for use, such as:
 - rolling pastry
 - loading fillings into hopper and setting automatic dispensing equipment
 - bringing fillings to required temperature
- form product shape
- dispense fillings within acceptable volume, weight and placement parameters
- apply tops, coding and/or toppings according to product requirements
- trim pastry keeping bottom and top pastry separate
- include reworked pastry according to workplace procedures
- monitor the forming and filling process to ensure that quality standards are met, such as monitoring:
 - pastry thickness
 - alignment of deposited filling or accuracy of manual positioning
 - amount and/or rate of filling deposited
 - product weight
 - enclosure of pastry product by forming, rolling or covering with a pastry top to form seal
 - application of washes (before baking) or glaze and toppings (after baking)
 - appearance (size and shape)
- take corrective action so that product quality standards are met
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of:

- basic principles of pastry forming and filling
- acceptable standards for equipment/utensils used, including cleaning requirements and signs of wear or unacceptable damage
- quality requirements of filled pastry products, such as appearance, weight, and seal as required by product
- types of pastry suitable for use as tops and bottoms and in different products
- procedures for inclusion of rework, such as appropriate uses of rework; maximum number of batches that can contain rework before scrap is discarded, and importance of ensuring rework pastry is not contaminated by filling materials, other pastry types or other forms of contamination
- procedure for preparing and applying washes and glazes as required for product
- the effect of variables, such as filling temperature on finished product, and product temperature on glazing application
- settings, operating requirements and safety features of equipment used
- inspections/control points used to confirm that product meets quality requirements and related monitoring requirements
- causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning requirements and procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on equipment and ingredients used for forming and filling pastry • form and fill pastry according to quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • clean equipment • apply food safety procedures.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipe/decorating instructions • product specifications and related inspection/control points • forming and filling equipment as required by product type • shells/cases to be filled and fillings • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written operating procedures • specifications • production schedules • recipe instructions
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • moulds • tins and trays • depositing equipment
Processes	<p>Fillings may be:</p> <ul style="list-style-type: none"> • sweet or savoury • hot or cold <p>Milk and egg washes may be:</p> <ul style="list-style-type: none"> • applied prior to baking <p>Glazes and sugar may be:</p> <ul style="list-style-type: none"> • applied after baking

Unit Sector(s)

Unit sector	Retail baking
-------------	---------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB2002A Prepare fillings

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prepare a range of fillings for use in cake, bread and pastry products in an in-store bakery or retail baking environment.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare ingredients for use	1.1. Ingredients are confirmed and available to meet product requirements 1.2. Equipment is checked to confirm readiness for use 1.3. Ingredients are weighed and/or measured to meet recipe requirements 1.4. Ingredients are prepared for use in fillings
2. Prepare fillings	2.1. Fillings are prepared to meet recipe requirements 2.2. Fillings meet food safety and quality requirements 2.3. Unacceptable ingredients or fillings are identified, rectified and/or reported
3. Clean equipment	3.1. Equipment is cleaned to meet production and hygiene requirements 3.2. Work is conducted in accordance with workplace environmental guidelines 3.3. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify production requirements
- confirm condition, type, quality and quantity of ingredients
- weigh, scale or meter ingredients as required
- confirm equipment status and condition
- prepare ingredients as required, such as thawing or conditioning pre-prepared ingredients and/or preparing raw ingredients for use, and preparing solutions for addition (e.g. dissolving starch for use in a mixture)
- combine and process fillings, such as monitoring:
 - quality, quantity and sequencing of ingredient addition
 - blending/mixing process
 - cooking times and temperatures
 - filling characteristics (colour, texture, smell and viscosity)
- take corrective action so that fillings meet quality standards
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of filling preparation
- differences in filling types for different product types
- ingredient characteristics and purpose in filling, including types of thickeners used for filling types
- methods used to confirm accuracy of measuring equipment used, including taring of scales
- methods used to prepare fillings in the workplace
- quality characteristics and uses of fillings
- process requirements, such as:
 - time and temperature requirements relating to thawing, reheating, cooling (of cooked food) and cooking as required

REQUIRED SKILLS AND KNOWLEDGE

- storing/holding requirements
- cooking times and temperatures
- reconstituting dry ingredients
- settings, operating requirements and safety features of equipment used
- control points and related monitoring requirements, including time and temperature parameters for cooking
- causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- storage requirements for prepared fillings, such as refrigeration, freezing and shelf-life
- contamination (including cross-contamination) risks associated with ingredients/processes used
- waste handling and cleaning and procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • conduct pre-start checks on equipment and ingredients used to prepare fillings • prepare fillings according to quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • clean equipment • apply food safety procedures.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • work procedures, including advice on relevant filling preparation requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • filling preparation equipment as required by product type • materials/ingredients • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
-----------------------	--

assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------	--

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • verbal or written instructions • standards operating procedures (SOPs) • specifications • production schedules • recipe instructions
Savoury filling ingredients	Savoury filling ingredients include but are not limited to: <ul style="list-style-type: none"> • minced or diced raw meat (including chicken) • vegetables • eggs • starches and other ingredients as required for use in products, such as pies, sausage rolls, pasties, quiches and other products
Sweet fillings	Sweet fillings include but are not limited to: <ul style="list-style-type: none"> • fruit • syrup • jam • custard

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cream and starches
Preparation of ingredients	Preparation of ingredients for use in fillings can include: <ul style="list-style-type: none"> • thawing • mincing • peeling • slicing • dicing • cooking

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB2003A Produce meringue-based products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the principles, equipment and procedures used to produce meringue-based products in an in-store bakery or retail baking environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare and mix ingredients	1.1. Ingredients are confirmed and available to meet product requirements 1.2. Ingredients are weighed and/or measured to meet recipe requirements 1.3. Equipment is checked to confirm readiness for use 1.4. Ingredients are added and mixed in the correct sequence to meet recipe requirements 1.5. Mix meets specifications
2. Shape or form product	2.1. Meringue is shaped to meet product requirements 2.2. Meringue is topped and baked as required to meet recipe requirements 2.3. Product is baked as required by meringue type, to meet finished product requirements 2.4. Final product meets food safety and quality requirements 2.5. Unacceptable dough is identified, rectified and/or reported
3. Clean equipment	3.1. Equipment is cleaned to meet production and hygiene requirements 3.2. Waste is disposed of according to workplace procedure 3.3. Work is conducted in accordance with workplace environmental guidelines 3.4. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- Access workplace information to identify recipe requirements
- Confirm condition, type, quality and quantity of ingredients
- Prepare ingredients for use. This may include separating egg whites or reconstituting powdered whites and preparing sugar or sugar syrup as required by product
- Beat egg whites to achieve the required texture. This may be done manually or using mixing equipment
- Add remaining ingredients in the required sequence and stage to meet recipe requirements
- Monitor the appearance and consistency of mix and ensure that all ingredients are added
- Take corrective action as required so that meringue meets quality standards
- Shape meringue to meet product requirements. This may be done by piping or manually shaping
- Pipe or drop meringue to meet product requirements
- Apply toppings as required by product
- Bake meringue to remove moisture and achieve required appearance (applies to baked meringues only)
- Clean equipment and utensils to meet hygiene standards
- Maintain workplace records as required
- Maintain work area to meet housekeeping standards
- Finish products according to enterprise procedures
- Use oral communication skills / language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- Work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- Basic principles of making meringues
- Ingredient characteristics and purpose. This includes an understanding of how the preparation and conditioning of whites affects whisking
- Methods used to confirm accuracy of measuring equipment used
- Process requirements. This may include:
 - cleaning/degreasing bowls and utensils

REQUIRED SKILLS AND KNOWLEDGE

- mixing times and speeds
- baking as required
- cooling
- Required characteristics of meringues, uses and related processing methods
- Settings, operating requirements and safety features of equipment used
- Significance of variables such as:
 - time and speed at each stage of mixing
 - rate and sequence of ingredient addition
 - baking times and temperatures for final product
- Product presentation and storage requirements. This includes an understanding of the importance of thorough cooling prior to storing and potential effects of moisture on product
- Causes of variation and corrective action required
- Control points and related monitoring requirements
- OHS hazards and controls
- Waste handling and cleaning and procedures
- Preparing and applying decorations to finish products where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • plan and prepare ingredients, equipment and processes required for meringue • combine, shape and form ingredients according to requirements for type of product • assess meringue outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • clean equipment • apply safe work practices and identify OH&S hazards and controls • cost final product • apply food safety procedures
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures including advice on relevant meringue product preparation requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • mixing bowls and utensils, piping equipment and oven equipment as required by product type • materials/ingredients • personal protective clothing, equipment and material safety data sheets as required • cleaning procedures, materials and equipment as required
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	other units of competence relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity
Workplace information	Workplace information can include verbal or written operating procedures, specifications, production schedules and recipe instructions
Base ingredients	Base ingredients include egg white and sugar
Eggs	Eggs may be mechanically or manually beaten
Equipment	Equipment may include mixing bowls, whisks, mechanical mixers, ovens and piping bags
Meringues	Meringues may be baked or unbaked depending on recipe requirements

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB2004A Provide production assistance for bread products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to provide assistance in the preparing, mixing and baking of dough to produce bread products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a retail baking environment. It applies to a baking assistant role and is conducted under supervision.</p> <p>Bread products include those that are commonly available which require basic production techniques, including the use of premixes.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare work area	1.1. Work area and personal hygiene are confirmed as clean and in accordance with work food safety standards 1.2. Requirements for bread production are confirmed with supervisor or work procedures 1.3. Equipment requirements are identified and equipment checked for availability and readiness 1.4. Ingredients are identified and checked for availability and readiness
2. Mix basic dough	2.1. Ingredients are weighed and/or measured to meet recipe requirements 2.2. Ingredients are loaded into the mixer to meet recipe requirements 2.3. Mixer is operated according to dough requirements and operating instructions
3. Scale and mould dough	3.1. Dough is scaled and moulded according to product requirements 3.2. Proving requirements are identified and proving cabinet used as required 3.3. Dough is moulded for final shape and placed in tins, on tray or baking surface 3.4. Readiness for baking is confirmed by supervisor
4. Bake dough	4.1. Oven temperatures are confirmed and oven checked for readiness 4.2. Timing required for baking is confirmed 4.3. Dough pieces are loaded into oven and baking time monitored 4.4. Bread product is unloaded from oven and cooled in accordance with work requirements 4.5. Quality standards are checked and non-compliances identified and reported 4.6. Bread products are moved to allocated area for finishing, into racks or crates or prepared for sale
5. Clean equipment	5.1. Equipment is cleaned to meet production and hygiene requirements 5.2. Waste is disposed of according to workplace procedure 5.3. Work is conducted in accordance with workplace environmental guidelines

ELEMENT	PERFORMANCE CRITERIA
	5.4. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

Required skills

Ability to:

- access workplace information and liaise with supervisor to identify production requirements
- confirm type, quality and quantity of ingredients
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of bread baking, including processes such as mixing and producing, dividing and shaping, moulding dough to final shape, final proving dough and baking bread
- characteristics of ingredient and storage requirements
- settings, operating requirements and safety features of equipment used
- methods used to confirm accuracy of measuring equipment used
- time, temperature and humidity on the bread baking processes
- required characteristics of dough
- control points and related monitoring requirements
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare work area according to workplace food safety standards • plan and prepare ingredients, equipment and processes required for dough • mix, scale and mould dough according to product requirements • bake dough according to product requirements • assess dough outcomes against quality standards • clean equipment • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant dough preparation requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • mixing equipment • materials/ingredients • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • verbal or written operating procedures • specifications • recipe instructions
Quality requirements	Quality requirements include: <ul style="list-style-type: none"> • identifying, rectifying, removing and/or reporting unacceptable bread dough products and baked products

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB2005A Provide assistance in cake, pastry and biscuit production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to provide assistance in the preparation of cake, pastry and biscuit products.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment. It applies to a baking assistant role and is conducted under supervision. Cake and pastry products include those that are commonly available which require basic production techniques, including the use of premixes.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare work area	1.1. Work area and personal hygiene are confirmed as clean and in accordance with work food safety standards 1.2. Requirements for production are confirmed with supervisor or work procedures 1.3. Equipment requirements are identified and equipment checked for availability and readiness 1.4. Ingredients are identified and checked for availability and readiness
2. Mix ingredients	2.1. Dry ingredients are weighed and/or measured to meet recipe requirements and combined 2.2. Ingredients are poured into mixer and wet ingredients combined according to recipe requirements 2.3. Mixer is operated according to product requirements and operating instructions 2.4. Dough or batter is moved to work area applying safe lifting procedures
3. Shape dough	3.1. Dough is rolled by hand and shaped according to product requirements 3.2. Flattening and shaping equipment is used according to workplace requirements 3.3. Dough waste is minimised and processed 3.4. Readiness for baking is confirmed by supervisor
4. Pour batter	4.1. Cake tins are prepared for use 4.2. Mixed product is fed into hopper for automatic dispensing into cake tins 4.3. Cake tins are filled according to product requirements and readiness for baking confirmed
5. Bake product	5.1. Oven temperatures are confirmed and oven checked for readiness 5.2. Timing required for baking is confirmed 5.3. Tins/trays/racks are loaded into oven and baking time monitored 5.4. Tins/trays/racks are turned as required to achieve even baking 5.5. Tins/trays/racks are removed from oven and cooled in accordance with work requirements 5.6. Quality standards are checked and non-compliances identified and reported

ELEMENT	PERFORMANCE CRITERIA
	5.7. Products are moved to allocated area for finishing or sale
6. Clean equipment	6.1. Equipment is cleaned to meet production and hygiene requirements 6.2. Waste is disposed of according to workplace procedure 6.3. Work is conducted in accordance with workplace environmental guidelines 6.4. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information and liaise with supervisor to identify production requirements
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- characteristics of ingredient and storage requirements
- settings, operating requirements and safety features of equipment used
- methods used to confirm accuracy of measuring equipment used
- time, temperature and humidity on the baking processes
- required characteristics of dough or mix
- control points and related monitoring requirements
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare work area according to workplace food safety standards • plan and prepare ingredients, equipment and processes • mix, pour and shape dough or mix according to product requirements • bake according to product requirements • provide assistance for the production of cake, pastry and biscuit products • assess dough outcomes against quality standards • clean equipment • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant dough preparation requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • mixing equipment • materials/ingredients • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • recipe instructions
Quality requirements	<p>Quality requirements include:</p> <ul style="list-style-type: none"> • identifying, rectifying, removing and/or reporting unacceptable products

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3001A Produce pastry

Modification History

November 2011: minor typographical error corrected.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to produce pastry and shortbread in an in-store bakery or retail baking environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry. This unit covers all pastry types and may include the steps of blocking and laminating according to pastry requirements.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare and mix ingredients	1.1. Ingredients are confirmed and available to meet product requirements 1.2. Ingredients are weighed and/or measured to meet recipe requirements 1.3. Equipment is checked to confirm readiness for use 1.4. Mixing equipment is set and operated to meet recipe requirements 1.5. Ingredients are loaded into the mixer to meet recipe requirements 1.6. Mix meets specifications
2. Process pastry as required	2.1. Pastry is blocked to meet dough break requirements 2.2. Pastry is laminated and folded to meet product requirements 2.3. Pastry is piped, dropped or deposited to meet product requirements 2.4. Pastry meets food safety and quality requirements 2.5. Unacceptable pastry is identified, rectified and/or reported
3. Clean equipment	3.1. Equipment is cleaned to meet production and hygiene requirements 3.2. Work is conducted in accordance with workplace environmental guidelines 3.3. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify recipe requirements
- confirm condition, type, quality and quantity of ingredients, including selecting shortening type to meet recipe and ambient temperature requirements
- weigh, scale or meter ingredients as required
- calculate yield based on given batch weight and/or main ingredient weight, according to workplace practices
- cook shortening, flour and water until starch is gelatinised and protein is denatured
- cool roux-type mixture to required temperature
- add egg to meet recipe requirements
- pipe or drop pastry to meet product requirements
- confirm equipment status and condition
- set mixing equipment to meet production requirements, such as:
 - selecting and fitting appropriate attachments
 - setting mixer times and speeds
- transfer ingredients to the mixer in the required sequence
- monitor the appearance and consistency of mix and ensure that all ingredients (including shortening) are added
- block pastry as required, to suit dough break capacity
- roll out pastry dough and add shortening if not already in the mix
- set aside for further use or proceed to laminate
- laminate and fold pastry to meet product requirements
- take corrective action as required so that pastry meets quality standards
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of pastry making

REQUIRED SKILLS AND KNOWLEDGE

- principles of choux pastry making
- ingredient characteristics and purpose in pastry, including shortening types, flour types, components and their effect on pastry quality
- significance of factors such as shortening type and temperature on final product
- methods used to confirm accuracy of measuring equipment used
- process requirements, such as:
 - mixing times and speeds
 - appearance and consistency to be met
 - batching or scaling off pastry for blocking
 - pastry rolling and folding for pastry type
 - resting time
- required characteristics of different types of pastry, uses and related processing methods
- settings, operating requirements and safety features of equipment used
- purpose and time required to allow pastry to rest
- product storage requirements, such as refrigeration, freezing and shelf-life
- causes of variation and corrective action required
- control points and related monitoring requirements
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning and procedures

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of ability to:

- plan and prepare ingredients, equipment and processes required for pastry
- produce pastry, choux pastry and shortening

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • combine and process ingredients according to requirements for type of product • block and laminate pastry as required • assess pastry outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • clean equipment • apply safe work practices and identify OHS hazards and controls • cost final product • apply food safety procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant pastry product requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • mixing, rolling, blocking and laminating equipment as required by pastry type • materials/ingredients • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Ingredients	Ingredients include but are not limited to: <ul style="list-style-type: none"> • flour • shortening • sugar • salt and water
Equipment	Equipment may include: <ul style="list-style-type: none"> • mixers • sieves • lifting equipment • dough break equipment for laminating
Shortening	Shortening may be added to the mixer or worked into the dough manually

RANGE STATEMENT	
Folding of pastry	Folding of pastry is typically in half or book folds
Lamination	Lamination does not apply to short paste and pie bottom paste

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3002A Produce bread dough

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to produce a range of dough types, including white, brown, wholemeal and grain doughs, in an in-store bakery or retail baking environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to mix dough	1.1. Ingredient specifications are confirmed and available to meet product requirements 1.2. Equipment is checked to confirm readiness for use 1.3. Ingredients are weighed and/or measured to meet recipe requirements
2. Prepare a range of dough types	2.1. Ingredients are loaded into the mixer to meet recipe requirements 2.2. Dough mixing equipment is set and operated to meet recipe requirements 2.3. Dough meets specifications 2.4. Unacceptable dough is identified, rectified and/or reported
3. Clean equipment	3.1. Equipment is cleaned to meet production and hygiene requirements 3.2. Waste is disposed of according to workplace procedure 3.3. Work is conducted in accordance with workplace environmental guidelines 3.4. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify production requirements
- confirm condition, type, quality and quantity of ingredients
- confirm that equipment is clean and ready for operation
- weigh, scale or measure ingredients according to product specification
- calculate yield based on a given batch weight or flour weight according to workplace practice
- transfer ingredients to the mixer in the required sequence
- set mixing equipment to meet recipe requirements
- adjust water temperature to meet final finished dough temperature requirements
- operate and monitor the mixing process, such as monitoring:
 - dough consistency feel and texture
 - ingredient and finished dough temperature
 - dough development/bulk fermentation time
- take corrective action as required to ensure dough requirements are met
- finish dough to meet product requirements, such as adding shortening pastry margarine and/or butter if not already in the mix
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of dough making
- ingredient characteristics and purpose in dough., including flour quality and the components of wheat flour
- settings, operating requirements and safety features of equipment used
- methods used to confirm accuracy of measuring equipment used, including taring scales
- ingredient storage requirements
- significance of factors such as dough temperature, the amount of work

REQUIRED SKILLS AND KNOWLEDGE

input/mixing time, gluten development, water addition, yeast activity and consistency of dough

- purpose and time required to allow dough to rest/ferment following mixing
- required characteristics of dough
- causes of variation and corrective action required
- settings, operational requirements and safety features of mixing equipment
- control points and related monitoring requirements
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • plan and prepare ingredients, equipment and processes required for dough • combine and process ingredients according to requirements for type of product • assess dough outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • clean equipment • apply safe work practices and identify OHS hazards and controls • cost final product • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant dough preparation requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • mixing equipment • materials/ingredients • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standards operating procedures (SOPs) • specifications • production schedules • recipe instructions
Typical ingredients	<p>Typical ingredients include but are not limited to:</p> <ul style="list-style-type: none"> • wheat flour • water • salt • yeast • shortenings • bread improvers • additional ingredients, such as rye flour, sours, fruit, spices, grains and fibre
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • mixers • sieves • weighing, metering and lifting equipment

Unit Sector(s)

Unit sector	Retail baking
-------------	---------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB3003A Produce sponge, cake and cookie batter

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to produce a range of cake, sponge and cookie batters in an in-store bakery or retail baking environment.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare sponge, cake and cookie batter	1.1. Ingredients are confirmed and available to meet product requirements 1.2. Ingredients are weighed and/or measured to meet recipe requirements 1.3. Equipment is checked to confirm readiness for use 1.4. Mixing equipment is set and operated to meet recipe requirements 1.5. Ingredients are loaded into the mixer to meet recipe requirements 1.6. Batter meets specifications 1.7. Prepared batter is deposited into tins/onto papers
2. Clean equipment	2.1. Equipment is cleaned to meet production and hygiene requirements 2.2. Waste is disposed of according to workplace procedure 2.3. The work area is maintained according to housekeeping standards 2.4. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify recipe requirements
- confirm condition, type, quality and quantity of ingredients, including selecting shortening type to meet recipe and ambient temperature requirements
- weigh, scale or meter ingredients as required
- calculate yield based on given batch weight and/or main ingredient weight according to workplace practices
- confirm equipment status and condition
- transfer ingredients to the mixer in the required sequence
- set mixing equipment to meet production requirements, such as:
 - selecting and fitting appropriate attachments
 - setting mixer times and speeds
- operate and monitor the mixing process, such as monitoring:
 - mixing time and speed
 - ingredient and finished batter temperature
 - batter consistency, appearance and texture
- identify batter that does not meet quality requirements and take necessary corrective action
- prepare tins/trays, liners and papers as required
- deposit, extrude or spread batter to meet product and volume/weight requirements
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of cake, sponge and cookie making
- ingredient characteristics and purpose in the final product, including flour types, sugar grades, shortening and emulsifiers, and fresh and/or pulp egg, as well as pre-mix composition, where required
- methods used to confirm accuracy of measuring equipment used

REQUIRED SKILLS AND KNOWLEDGE

- ingredient storage requirements
- methods used to prepare cake batter
- physical and chemical methods used to aerate batter
- significance of factors, such as temperature of batter on final product
- factors affecting sponge-making
- required characteristics of batter
- process requirements, such as:
 - mixing times and speeds
 - batter specifications
- settings, operating requirements and safety features of equipment used
- methods used to deposit batter including use of release agents as required
- causes of variation and corrective action required
- control points and related monitoring requirements
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • plan and prepare ingredients, equipment and processes required for batter • combine and process ingredients according to requirements for type of batter • assess batter outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • clean equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • production equipment, such as mixing and depositing equipment as required by product type • materials/ingredients • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Batters	<p>Batters for cakes, sponges and cookies may be:</p> <ul style="list-style-type: none"> • prepared from scratch or by using pre-mixes
Typical ingredients	<p>Typical ingredients include but are not limited to:</p> <ul style="list-style-type: none"> • flour • sugar • shortenings and margarines • eggs • fruit and flavour enhancing ingredients
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • tins and trays • mixers • sieves

RANGE STATEMENT	
	<ul style="list-style-type: none"> • hydraulic lifting • depositing equipment
Confirming equipment status	Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place, equipment is operational and required attachments are fitted. In the case of sponge production, this includes ensuring bowls and utensils are free of all fat residues

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3004A Decorate cakes and cookies

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prepare and apply decorating materials, such as fondants and ganache, and use a range of typical decorating techniques.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to decorate cakes and cookies	1.1. Ingredients are confirmed and available to meet finishing requirements 1.2. Equipment is checked to confirm readiness for use 1.3. Decorations and decorating materials are available to meet product decorating requirements
2. Decorate products to meet quality and customer requirements	2.1. Decorating materials are applied to meet presentation requirements 2.2. Finished product meets presentation requirements 2.3. Unacceptable product is identified, rectified or reported 2.4. Products are assembled to meet customer and quality requirements 2.5. Work is conducted in accordance with workplace environmental guidelines 2.6. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- confirm customer requirements
- select and/or follow appropriate decorating instructions
- confirm that the required type and quantity of cake ornaments, decorations and decorating materials and/or ingredients are available
- confirm that required equipment is clean and ready for use
- mix or prepare decorating materials as required
- select and mount cakes on appropriate cake bases
- demonstrate a range of decorating techniques to suit the product - at a minimum, decorating techniques will include:
 - flooding, icing or masking cakes
 - writing simple messages
 - using more than one decorating material to achieve the required finish
 - applying decorating materials to cover cakes in a timely manner to achieve an even, clean finish as required by product and customer requirements
- identify and take corrective action to ensure that finished product meets quality standards
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- temper chocolate according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- methods used to prepare a range of decorating materials, including preparation of ganache and fondants
- characteristics, role and storage requirements of materials used
- required characteristics of prepared decorating materials
- methods used to prepare powdered and liquid colours/flavours
- methods used to confirm accuracy of measuring equipment used
- board types, sizes and appropriate medium to secure cake to cake base

REQUIRED SKILLS AND KNOWLEDGE

- acceptable standards for equipment/utensils used, including cleaning requirements and signs of wear or unacceptable damage (where measuring equipment is used, it may also include procedures, such as taring of scales)
- decorating techniques, such as flooding, icing or masking, piping of simple messages and decorative finishes, and placement of ornaments and decorations
- the effect of variables, such as the temperature of decorating materials and application time on the finished product
- product quality, presentation and storage requirements, such as refrigeration, freezing and shelf-life
- inspections/control points used to confirm that product meets quality requirements and related monitoring requirements
- causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning requirements and procedures
- chocolate preparation and tempering where relevant

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • plan and prepare ingredients, equipment and processes required for decoration • combine and process ingredients according to requirements for decoration • decorate to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • work procedures, including advice on relevant product decoration requirements, safe work practices, food safety, quality and environmental requirements • recipe/decorating instructions • product specifications and related inspection/control points • product to be decorated and related decorating materials and equipment • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
-----------------------	--

assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------	--

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Decorating materials	Decorating materials may include but are not limited to: <ul style="list-style-type: none"> • cake ornaments and decorations • fresh, mock or butter cream • fudge and other icing sugar • fondant • chocolate • glazes • fruit • custard • mousses and similar fillings and coverings Decorating materials may be prepared from scratch or purchased for use

RANGE STATEMENT	
Typical equipment	<p>Typical equipment includes:</p> <ul style="list-style-type: none"> • piping bags and nozzles • mixing bowls • application utensils, such as spatulas and palette knives
Typical decorating techniques	<p>Typical decorating techniques include:</p> <ul style="list-style-type: none"> • flooding, icing or masking cakes • finishing cake sides • piping to produce decorative finishes and write simple messages • placement or arrangement of ornaments and decorations <p>It may also include applying the final layer of materials to finish a product</p>
Decorating	Decorating is done within design specification parameters

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3005A Bake bread

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to bake bread in an in-store bakery or retail baking environment.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry. It targets the worker responsible for operating ovens and the baking process in order to achieve quality standards for bread products.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to bake dough	1.1. Baking parameters are selected as required to meet safety and baking requirements 1.2. Dough pieces are loaded into the oven 1.3. Ingredients are confirmed and available to meet finishing requirements
2. Bake bread	2.1. Ovens are operated to meet required output 2.2. Baked product meets food safety and quality requirements 2.3. Unacceptable baked product is identified, rectified and/or reported 2.4. The work area is maintained according to housekeeping standards 2.5. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify recipe/baking requirements
- select appropriate oven settings and start up the oven, including setting time and temperature controls
- load dough pieces
- schedule loads according to volume and temperature requirements to achieve time and energy efficiencies
- monitor baking process, including:
 - steam injection (as required)
 - crust colour
 - sheen
 - uniformity of shape
 - size (oven spring)
- take corrective action as required to maintain quality of product
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- changes that occur to the product during baking
- how dough characteristics such as shape/size and skin formation affect the final product
- the effect of variables, such as time, temperature and humidity on baking
- the effect of yeast activity on the final product
- quality characteristics of final product, including:
 - volume
 - grain
 - texture
 - crumb colour
 - crust formation and colour

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• settings, operating requirements and safety features of equipment used• causes of variation and corrective action required• control points and related monitoring requirements• occupational health and safety (OHS) hazards and controls• waste handling and cleaning requirements |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on ovens used for baking • start, operate, monitor and adjust ovens to achieve required quality outcomes • assess bread outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • safely shut down ovens • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • specifications, control points and processing settings • baking equipment • bread dough that has undergone final moulding and proof • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

EVIDENCE GUIDE	
assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Ovens	Ovens may be loaded manually, or by placing trays or using slips and belts according to workplace equipments

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3006A Bake sponges, cakes and cookies

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to bake sponges, cakes and cookies in an in-store bakery or retail baking environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry. It targets the worker responsible for operating ovens and the baking process in order to achieve product standards for sponges, cakes and cookies.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to bake product	1.1. Baking parameters are selected as required to meet safety and baking requirements 1.2. Batter is available and tinned or deposited ready for baking
2. Bake products	2.1. Ovens are operated to meet required output 2.2. Baked product meets food safety and quality requirements 2.3. Unacceptable baked product is identified, rectified and/or reported 2.4. The work area is maintained according to housekeeping standards 2.5. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify baking requirements
- confirm product is correctly deposited and ready for baking
- select appropriate oven settings and start up the oven, including setting time and temperature controls
- load product, including positioning product on trays, slips or belts with correct spacing
- monitor baking process, including:
 - colour
 - appearance/shape
 - time
- remove baked products from oven and cool, turn out and present finished product, including placing on cooling racks
- take corrective action as required to maintain quality of product
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- finish products according to enterprise procedures
- decorate cakes and cookies according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of cake, sponge and cookie production
- effect of ingredients on baking process and final product
- cooling methods
- required characteristics of final product
- process requirements, such as:
 - baking times and temperatures
 - oven settings
 - settings, operating requirements and safety features of equipment used
- product presentation and storage requirements, such as refrigeration and shelf-life
- product cooling and handling methods to preserve product quality

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• control points and related monitoring requirements• causes of variation and corrective action required• control points and related monitoring requirements• occupational health and safety (OHS) hazards and controls• waste handling and cleaning requirements• finishing baked products where relevant• decorating cakes and cookies where relevant |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on ovens used for baking • start, operate, monitor and adjust ovens to achieve required quality outcomes • assess product outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • safely shut down ovens • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • baking instructions • specifications, control points and processing settings • baking equipment (this includes depositing equipment, tins and trays as required) • sponge, cake and/or cookie batter • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

EVIDENCE GUIDE	
-----------------------	--

assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------	--

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • topping equipment • oven loading equipment • ovens • cooling racks

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3007A Bake pastry products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to bake pastry in an in-store bakery or retail baking environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry. It targets the worker responsible for operating ovens and the baking process in order to achieve quality standards for pastry products.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to bake pastry products	1.1. Baking parameters are selected as required to meet safety and baking requirements 1.2. Product is prepared, finished and arranged to meet quality and product requirements
2. Bake products	2.1. Ovens are operated to meet required output 2.2. Baked product meets food safety and quality requirements 2.3. Unacceptable baked product is identified, rectified and/or reported 2.4. The work area is maintained according to housekeeping standards 2.5. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify baking requirements
- prepare product for baking, such as thawing frozen product and allowing the required development/conditioning of product prior to baking
- select appropriate oven settings and start up the oven, including setting time and temperature controls
- load product, including positioning product on trays, slips or belts with correct spacing
- select required oven settings, such as setting time, temperature and steam controls
- monitor baking process, including:
 - colour
 - appearance/shape
 - seals that they show no signs of boil out
- remove baked products from oven and cool to meet required temperature
- present, package and/or store as required
- apply washes and/or glazes before or after baking as required
- take corrective action as required to maintain quality of product
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- changes that occur to the product during baking
- how pastry product characteristics affect the final product
- time required for conditioning products
- the effect of variables, such as temperature of fillings, time, temperature and humidity during the baking process
- quality characteristics of the final product
- presentation and/or storage requirements for baked product, such as refrigeration, freezing and shelf-life
- settings, operating requirements and safety features of equipment used

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• causes of variation and corrective action required• control points and related monitoring requirements• occupational health and safety (OHS) hazards and controls• waste handling and cleaning requirements |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on ovens used for baking • start, operate, monitor and adjust ovens to achieve required quality outcomes • assess product outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • safely shut down ovens • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • specifications, control points and processing settings • baking equipment • pastry products • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of</p>

EVIDENCE GUIDE	
	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Product	Product may be prepared fresh or frozen
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • topping equipment • oven loading equipment • ovens • cooling racks

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB3008A Store, handle and use frozen dough

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to thaw and handle frozen dough in the production of bread and other yeast-raised products.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to an in-store or retail bakery environment. Dough is typically provided in frozen form to be stored and handled for use in the retail bakery products.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Store frozen dough	1.1.Storage conditions required to retain quality characteristics of frozen dough are identified and monitored 1.2.Consequences of inconsistent temperature and moisture controls for frozen dough are identified 1.3.The cold chain is monitored to ensure that product meets food safety and quality requirements
2. Thaw frozen dough	2.1.Dough is thawed at a rate and conditions required to maintain quality 2.2.Impact of thawing rate on yeast and/or laminated products are identified 2.3.Thawed dough meets food safety and quality requirements 2.4.Unacceptable dough is identified, rectified and/or removed 2.5.Waste is disposed of according to workplace procedure 2.6.Housekeeping standards are maintained in the workplace 2.7.Work is conducted in accordance with workplace environmental guidelines
3. Use thawed dough in baked products	3.1.Dough is proved and/or conditioned to prepare for use 3.2.Dough is baked in accordance to product specifications and requirements 3.3.Implications of using frozen dough on proving and baking are identified and managed in the baking process 3.4.identify and act on any quality inconsistencies in production processes and the final product

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access freezing requirements for dough type
- store frozen dough
- monitor equipment to confirm that freezing parameters are met
- thaw dough as required for use
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of freezing dough, including what occurs to dough during snap freezing and storage stages
- basic understanding of the freezing equipment used, freezing capacity and the effect of freezing method on product
- different handling requirements of made up and proved doughs to preserve the dough structure
- purpose and characteristics of packaging liners used to pack frozen dough
- procedures for maintaining temperature parameters of freezing equipment, including procedures to be followed when loading and removing dough to preserve temperature conditions
- storage patterns to make efficient use of space, allow for product rotation and minimise temperature fluctuations
- food safety issues that can result from temperature abuse
- the significance of timeliness when both freezing and thawing dough
- optimal storage times
- the significance of variables such as dough type and size on freezing and thawing processes
- procedures for efficiently thawing frozen product and the consequences of slow thawing
- the effect of freezing/thawing on the quality of the final product
- inspections/control points used to confirm that product meets quality requirements and related monitoring requirements

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• causes of variation and corrective action required• occupational health and safety (OHS) hazards and controls• waste handling and cleaning requirements and procedures |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • store frozen dough to maintain quality standards • identify the implications of using frozen dough for the baking process and the final product • thaw and prepare dough for use • use frozen dough in baking products • assess outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant freezing, storing and thawing requirements, safe work practices, food safety, quality and environmental requirements • product specifications and related inspection/control points • freezing equipment • frozen dough • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
Guidance information for	<p>To ensure consistency in one's performance, competency</p>

EVIDENCE GUIDE

assessment

should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Freezing equipment	<p>Freezing equipment includes:</p> <ul style="list-style-type: none"> • storage freezers
Dough	Dough that is frozen may be either made up or proved dough. Frozen dough that has not been proved requires an additional step of conditioning before baking. This does not apply to proved dough

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3009A Retard dough

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to retard and recover dough and other yeast-raised products in an in-store bakery or retail baking environment.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to retard dough	1.1. Dough retardation requirements are identified 1.2. Equipment is set to meet retardation parameters
2. Retard and recover dough	2.1. Dough is retarded to meet specification 2.2. Equipment is set to meet dough recovery parameters 2.3. Retarded and recovered doughs meet specification 2.4. Unacceptable dough is identified, rectified and/or reported 2.5. Housekeeping standards are maintained in the workplace 2.6. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access retardation requirements for dough type
- set equipment to meet the parameters for retarding dough, including selecting time, temperature and humidity
- load dough into the retarder - this is done in a way that minimises the delay between dough make up and loading into the retarder and follows dough rotation procedures so that dough is not retarded for more than the optimal time
- follow procedure to ensure retarding and recovery times are met
- monitor equipment to confirm that parameters are met
- where recovery is achieved using separate equipment, allow sufficient rest time between recovery and proofer
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of retarding dough, including what occurs to dough when it is retarded and recovered and how retardation works by controlling temperature to slow yeast fermentation
- the significance of variables, such as time, temperature and humidity on the dough retardation and recovery process
- where dough recovery is achieved using separate equipment, the significance of dough conditioning prior to recovery
- the effect of any delay in loading dough into the retarder on fermentation
- the effect of finished dough temperature on retardation process
- the effect of humidity on the dough surface and formation of skin on dough
- the significance of variables, such as dough type and size on recovery time and conditions
- the effect of retardation on the quality of the final product
- optimal time for retarding dough and procedures to ensure this time is met
- causes of variation and corrective action required

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• control points and related monitoring requirements• occupational health and safety (OHS) hazards and controls• waste handling and cleaning and procedures |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • determine requirements for dough retardation • prepare dough, equipment and processes required for retardation • retard dough to required specifications • assess dough outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • clean equipment • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant dough retardation and recovery requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • dough retarding equipment and proofing equipment (where not combined) • dough • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or</p>

EVIDENCE GUIDE	
	work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Dough retardation	Dough retardation refers to a method of delaying dough fermentation by placing dough in a controlled environment
Dough retarding equipment	Dough retarding equipment may combine retarding with a recovery/proving stage or be used for retarding only

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB3010A Process dough

Modification History

November 2011: minor typographical error corrected.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to divide, shape and mould dough to final shape, place dough in tins or on baking surfaces and conduct final prove in an in-store bakery or retail baking environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry. It includes an intermediate prove stage prior to final moulding.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Scale and mould dough	1.1. Dough is scaled to meet production requirements 1.2. Scaled dough meets weight requirements 1.3. Dough is moulded to provide initial shape 1.4. Dough is laminated, chilled or filled to suit product specification 1.5. Unacceptable scaled and moulded dough is identified, removed or rectified and/or reported
2. Mould dough and divide to meet product requirements	2.1. Dough is moulded to final shape 2.2. Dough is placed in tins or on baking surfaces as required 2.3. Dough meets specifications 2.4. Unacceptable final proved dough is identified, removed or rectified and/or reported
3. Clean equipment	3.1. Equipment is cleaned to meet production and hygiene requirements 3.2. Waste is disposed of according to workplace procedure 3.3. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify recipe requirements
- confirm the required quantity of dough is available
- divide dough into pieces of the required weight
- round or mould dough to meet intermediate prove weight requirements
- allow dough to develop for the required time (intermediate prove)
- monitor size and shape of dough and skin formation on dough during intermediate prove
- identify, correct and/or remove unacceptable sized/shaped dough
- confirm that tins and/or baking surfaces are available and ready for use
- carry out final mould (this may be done manually or by using moulding and rounding equipment)
- tin or place dough on baking surfaces as required
- conduct final prove of dough (prover settings are set to allow the required development/proving time and conditions, such as temperature and humidity)
- prepare dough for baking, such as applying finishings, positioning lids on tins according to product requirements and shaping specialty breads
- monitor dough volume and maturity
- visually check the appearance of finished products and confirm that finishings are applied to meet quality requirements
- identify, correct and/or remove unacceptable sized/shaped dough
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- the effect of dough shape/size on the final product
- purpose and time required to allow dough to develop
- methods used to confirm accuracy of measuring equipment used
- required characteristics of proved dough, such as size, height and appearance

REQUIRED SKILLS AND KNOWLEDGE

- causes of variation and corrective action required
- settings, operational requirements and safety features of dividing and rounding equipment
- requirements of the final proof process, including the importance of relative humidity and temperature on proving stage
- purpose and procedures for conducting a wet or dry prove
- moulding techniques to achieve required product shape for untinned bread products
- control points and related monitoring requirements
- occupational health and safety (OHS) hazards and controls
- waste handling and cleaning and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • scale and mould dough according to quality standards • use scales and determine weights accurately • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • clean equipment • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant scaling and moulding for intermediate prove requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • product specifications and related inspection/control points • dividing, rounding and intermediate prove equipment used in the workplace (in some workplaces these tasks are manually performed and do not involve the use of equipment) • dough • personal protective clothing, equipment and material safety data sheets (MSDS) s required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Typical ingredients	<p>Typical ingredients include but are not limited to:</p> <ul style="list-style-type: none"> • wheat flour • water • salt • yeast • shortenings • bread improvers • additional ingredients, such as rye flour, sours, fruit, spices, grains and fibre
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • mixers • sieves • weighing

RANGE STATEMENT	
	<ul style="list-style-type: none"> • metering • lifting equipment • final prover
Dough	Dough may be manually or mechanically moulded or shaped using moulding and rounding equipment
Final proof	Final proof may be wet or dry
Applying finishings	<p>Applying finishings can include:</p> <ul style="list-style-type: none"> • methods, such as dusting, cutting, spraying and applying toppings
Baking surfaces	<p>Baking surfaces depend on workplace equipment and procedures and can include:</p> <ul style="list-style-type: none"> • tins • slippers • trays and sole of the oven <p>Confirming that tins/trays are ready for use involves:</p> <ul style="list-style-type: none"> • checking that tins/trays are greased and prepared to the required standard and that hygiene and sanitation standards are met

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3011A Diagnose and respond to product and process faults (bread)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skill and knowledge required to determine cause and address faults in bread products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit builds on the problem solving skills developed in operational units and provides technical competencies to support problem solving relating to bread production.</p> <p>Where recurrence of a problem cannot be prevented, procedures should be established to minimise the likelihood of recurrence and to identify any further incidents.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFRB3002A	Produce bread dough
	FDFRB3005A	Bake bread
	FDFRB3010A	Process dough

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify causes of unacceptable product quality	<p>1.1. Unacceptable products are analysed to determine cause</p> <p>1.2. Process parameters and reactions which occur during processing are monitored</p>
2. Take corrective action according to workplace procedures	<p>2.1. Corrective action is taken to remove unacceptable product and prevent recurrence of the problem according to workplace procedures</p> <p>2.2. Corrective action is recorded according to workplace procedures and food safety program</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information relating to troubleshooting
- select, fit and use personal protective clothing and/or equipment
- use relevant observation and/or test methods to confirm raw ingredient characteristics
- remove/isolate and report ingredients/materials of unacceptable quality
- determine likely causes of unacceptable final product relating to raw ingredients
- determine likely causes of unacceptable final product relating to the process and/or storage conditions
- develop procedures to prevent or minimise the likelihood of recurrence of the problem
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic composition, characteristics and function of each main ingredient used, including:
 - form/grade of ingredient supplied
 - behaviour/changes occurring during processing
 - role and purpose
- preparation requirements for use, such as conditioning fruit
- bread styles, types and textures, including labelling requirements for types of bread consistent with the Food Standards Code
- impact of ingredient cost and yields on profit margin
- principles of processing techniques used to achieve finished products, including:
 - wet and dry proving methods
 - types of mixers used
 - hand moulding
 - oven types, including method of steam generation
 - methods of delivering product to the oven
- effect of typical reactions during mixing, development and baking, such as:
 - yeast activity

REQUIRED SKILLS AND KNOWLEDGE

- gluten development
- browning and caramelisation
- gelatinisation as it occurs in different dough types
- formula balance and ingredient addition sequence
- impact of ingredient cost and yields on profit margin
- process parameters and their effect, such as starting and finishing temperatures of ingredients and dough, the amount of work input/mixing time, and factors, such as time, temperature and humidity during each proving stage, and during baking, depanning and cooling
- storage and handling conditions for raw ingredients and finished product
- procedures for reworking or disposing of unacceptable product
- factors that can affect shelf-life, including:
 - ingredients used
 - bread types
 - storage conditions
 - packaging
 - environmental factors

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify product faults and determine cause • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • production schedule • recipe instructions • raw materials specifications • production equipment • relevant personal protective clothing and equipment • troubleshooting advice where available • documentation and recording requirements and procedures • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFRB3002A Produce bread dough • FDFRB3005A Bake bread • FDFRB3010 Process dough.

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Raw materials	<p>Raw materials include:</p> <ul style="list-style-type: none"> • those used to manufacture bread products
Causes of unacceptable quality	<p>Causes of unacceptable quality may relate to:</p> <ul style="list-style-type: none"> • raw materials, processing and/or storage
Ingredients	<p>Ingredients relate to:</p> <ul style="list-style-type: none"> • those ingredients used in product <p>Materials may include:</p> <ul style="list-style-type: none"> • packaging consumables
Bread styles and types	<p>Bread styles and types include but are not limited to:</p> <ul style="list-style-type: none"> • sours • flat breads • ryes, • continental breads
Typical process parameters	<p>Typical process parameters include:</p> <ul style="list-style-type: none"> • temperature

RANGE STATEMENT

	<ul style="list-style-type: none"> • time • humidity • development/proving time
--	--

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3012A Diagnose and respond to product and process faults (pastry, cake and cookies)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to determine causes and address faults in pastry, cake and cookie products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit builds on the problem solving skills developed in operational units and provides technical competencies to support problem solving relating to pastry, cake and cookie production.</p> <p>Where recurrence of a problem cannot be prevented, procedures should be established to minimise the likelihood of recurrence and to identify any further incidents.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFRB2001A	Form and fill pastry products
	FDFRB2002A	Prepare fillings
	FDFRB3001A	Produce pastry
	FDFRB3003A	Produce sponge, cake and cookie

Prerequisite units		
		batter
	FDFRB3004A	Decorate cakes and cookies
	FDFRB3006A	Bake sponges, cakes and cookies
	FDFRB3007A	Bake pastry products

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify causes of unacceptable product quality	1.1. Unacceptable products are analysed to determine cause 1.2. Process parameters and reactions which occur during processing are monitored
2. Take corrective action according to workplace procedures	2.1. Corrective action is taken to remove unacceptable product and prevent recurrence of the problem according to workplace procedures 2.2. Corrective action is recorded according to workplace procedures and food safety program

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information relating to troubleshooting
- select, fit and use personal protective clothing and/or equipment
- use relevant observation and/or test methods to confirm raw ingredient characteristics
- remove/isolate and report ingredients/materials of unacceptable quality
- determine likely causes of unacceptable final product relating to raw ingredients
- determine likely causes of unacceptable final product relating to the process and/or storage conditions
- develop procedures to prevent or minimise the likelihood of recurrence of the problem
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic composition, characteristics and function of each main ingredient used, including:
 - form/grade of ingredient supplied
 - behaviour/changes occurring during processing
 - role and purpose
- preparation requirements for use, such as conditioning fruit and bringing ingredients to the required temperature
- styles, types and textures of finished products
- impact of ingredient cost and yields on profit margin
- the purpose and effect of each production stage for pastry, including:
 - all-in, French, rolled in and short dough methods
 - mixing
 - blocking
 - laminating
 - sheeting
 - shape forming
 - filling preparation

REQUIRED SKILLS AND KNOWLEDGE

- methods of assembly and finishing
- the purpose and effect of each production stage for cakes and cookies, including:
 - batter preparation methods, including flour batter, sugar batter, all-in and pre-mix methods
 - methods of aeration including mechanical and chemical methods
 - sponge preparation methods
 - baking methods, such as boiling, steaming and baking
 - browning and caramelisation
 - methods of assembly and finishing
- effect of typical reactions during mixing and baking for pastry, such as:
 - lift
 - shrinkage
 - dough development
 - gelatinisation
- effect of typical reactions during mixing and baking for cakes and cookies, such as:
 - emulsification
 - aeration, including the role of eggs in aeration
 - browning and caramelisation
- formula balance and ingredient addition sequence
- impact of ingredient cost and yields on profit margin
- recipe and preparation requirements relevant to product type, such as starting and finishing temperatures of ingredients and dough, the amount of work input/mixing time, and factors, such as time, temperature and humidity during each proving stage, and during baking, depanning and cooling
- storage and handling conditions for raw ingredients and finished product
- procedures for reworking or disposing of unacceptable product
- factors that can affect shelf-life, including:
 - product type
 - ingredients used
 - preparation methods
 - storage conditions
 - packaging
 - environmental factors

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify product faults and determine cause • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • production schedule • recipe instructions • raw materials specifications • production equipment • relevant personal protective clothing and equipment • troubleshooting advice where available • documentation and recording requirements and procedures • sampling schedules and test procedures and equipment as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFRB3001A Produce pastry • FDFRB3003A Produce sponge, cake and cookie batter

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• FDFRB3006A Bake sponges, cakes and cookies• FDFRB3007A Bake pastry products.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation; • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Raw materials	<p>Raw materials include:</p> <ul style="list-style-type: none"> • those used to manufacture pastry, cake and cookies
Causes of unacceptable quality	<p>Causes of unacceptable quality may relate to:</p> <ul style="list-style-type: none"> • raw materials, processing and/or storage
Ingredients	<p>Ingredients relate to:</p> <ul style="list-style-type: none"> • those ingredients used in product <p>Materials may include:</p> <ul style="list-style-type: none"> • packaging consumables
Typical process parameters	<p>Typical process parameters include:</p> <ul style="list-style-type: none"> • temperature • time • humidity • development/proving time

Unit Sector(s)

Unit sector	Retail baking
-------------	---------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB3013A Produce artisan breads

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan and produce a range of artisan breads.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a retail baking environment within the food processing industry. It targets the worker responsible for the complete production of specialise breads, such as flat breads, national and regional breads.</p> <p>Note that this unit specifies minimum ingredient and product preparation requirements. Where these have been covered in earlier units of competency, these aspects of the unit do not need to be reassessed.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFRB3002A	Produce bread dough
	FDFRB3005A	Bake bread
	FDFRB3010A	Process dough

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and sequence preparation of artisan breads	1.1. Recipe is selected to meet product/customer requirements 1.2. Preparation and production stages are planned
2. Produce bread doughs for a range of artisan breads	2.1. Ingredients are selected to suit recipe specifications 2.2. Dough is prepared meet product requirements
3. Prepare and bake a range of artisan breads	3.1. Dough is prepared for baking according to product requirements 3.2. Product is baked to meet quality requirements 3.3. Final product is presented to meet food safety and customer requirements 3.4. Work is conducted in accordance with workplace environmental guidelines
4. Cost and price final product	4.1. Product ingredients are costed 4.2. Production costs are estimated 4.3. Product is priced within business pricing policy 4.4. Actual costs are measured against estimated costs

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- select appropriate recipe/formulation to meet product/customer requirements
- price ingredients for use in product
- estimate cost of production
- select ingredients to meet recipe requirements
- produce bread dough to meet recipe requirements, such as:
 - dough-based flat bread dough
 - batter-based flat bread dough
 - unleavened or chemically leavened flat bread dough
 - chemical sour dough
 - natural sour dough
 - an extended fermentation period dough
 - an enriched dough
- prepare cultures/starters for use in sours from scratch, using a natural sour dough and using a chemical starter
- prepare dough for baking according to requirements of bread type, including moulding/shaping, such as novelty shapes and plaited products
- bake bread products
- finish and present bread product to meet product and customer requirements, including applying toppings as required
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- measure actual production costs against estimate and account for any variation
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- typical formulations for bread types
- principles and processes involved for extended fermentation doughs
- fermentation process in chemical and natural sour doughs as this affects dough preparation, baking and final product characteristics, and related food safety issues

REQUIRED SKILLS AND KNOWLEDGE

- preparation stages and requirements for nominated bread types, including:
 - starter preparation
 - dough scaling and rounding methods, including sheeting, hand and mechanical scaling and rounding
 - intermediate proving methods, including ambient temperature and normal proving
 - moulding, including novelty shapes and plaited product preparation
 - loading product into ovens, including stretching flat bread doughs, such as Turkish bread on the oven floor
 - baking parameters for different bread types
 - the effect of ingredients on shelf-life and food safety
- optimum storage conditions and shelf-life for ingredients and related sequencing requirements
- optimum storage conditions for the finished product prior to sale
- ingredient suppliers and pricing information
- methods of estimating fixed and variable costs, and profit margin to determine sale price range
- basic awareness of trade practice issues when pricing products
- business policy and parameters in pricing products

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • plan and prepare ingredients, equipment and processes required for specialised bread • combine and process ingredients according to requirements for type of bread • start, operate, monitor and adjust ovens to achieve required quality outcomes • assess bread outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • cost final product • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipes and customer specifications • production equipment appropriate to product type • materials/ingredients to meet recipe requirements • ingredient pricing information • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>

EVIDENCE GUIDE**Guidance information for assessment**

To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code. including labelling, weights and measures legislation legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> verbal or written instructions standard operating procedures (SOPs) specifications production schedules recipe instructions
National and regional breads	<p>National and regional breads include:</p> <ul style="list-style-type: none"> festive and religious breads
Dough preparation	<p>Dough preparation depends on product/bread type. Typical steps include:</p> <ul style="list-style-type: none"> scaling/rounding intermediate prove moulding/shaping final prove topping and baking
Enriched dough products	<p>Enriched dough products include:</p> <ul style="list-style-type: none"> brioche and cholla

Unit Sector(s)

Unit sector	Retail baking
-------------	---------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB3014A Produce sweet yeast products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to produce a range of sweet yeast cakes, buns and pastries in an in-store bakery or retail baking environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment within the food processing industry. It covers skills required to produce sweet yeast and enriched products, such as buns, brioches, Danish pastries, croissants, Panettones and specialised Italian yeast goods.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to mix dough	1.1. Ingredients are confirmed, available and conditioned or prepared to meet production requirements 1.2. Equipment is checked to confirm readiness for use
2. Prepare dough	2.1. Ingredients are loaded into mixer to meet recipe requirements 2.2. Mixing equipment is set and operated to meet recipe requirements 2.3. Dough meets product requirements
3. Bake/fry product	3.1. Dough is shaped for baking or frying 3.2. The baking/frying process is operated to meet required output 3.3. Final product meets food safety and quality requirements 3.4. Unacceptable product is identified, rectified and/or reported
4. Clean equipment	4.1. Equipment is cleaned to meet production and hygiene requirements 4.2. Work is conducted in accordance with workplace environmental guidelines 4.3. Workplace records are maintained according to workplace recording requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to identify recipe requirements
- confirm condition, type, quality and quantity of ingredients
- prepare ingredients as required, such as weighing, scaling or metering ingredients and conditioning ingredients (e.g. dried fruit)
- confirm that equipment required is available, clean and fit for use
- transfer ingredients to the mixer in the required sequence
- set mixing equipment to meet recipe requirements, such as:
 - selecting and fitting attachments
 - setting mixing speed and time
- operate and monitor the mixing process, such as:
 - ingredient and finished dough temperature
 - dough development
 - dough consistency, feel and texture
 - addition of special ingredients, such as dried fruit
 - selecting and fitting attachments
- finish dough to meet product requirements, such as rolling, adding shortening if not already in the mix, laminating and folding
- allow dough to proof
- prepare cooking/baking trays
- deposit, extrude, roll or shape dough to meet product and volume/weight requirements
- set up baking/frying equipment, such as setting oven temperatures, times and humidity and/or preparing deep frying equipment
- operate and monitor baking/frying process, such as monitoring time, colour and appearance
- cool and present finished product, such as placing on cooling racks and slicing and applying glazes and/or sugar
- calculate product yield based on given batch weight and/or main ingredient weight, according to workplace practices
- take corrective action so that quality standards are met
- clean equipment and utensils to meet hygiene standards
- complete workplace records as required
- maintain work area to meet housekeeping standards
- finish products according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- form and fill products according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of producing yeast-raised products
- ingredient characteristics, purpose in the product and storage requirements, including flour types, sugar grades, shortening and emulsifiers and other ingredients used
- required characteristics of finished products
- method used to calculate ingredient weights to meet production and recipe requirements
- acceptable standards for equipment/utensils used, including cleaning requirements and signs of wear or unacceptable damage (where measuring equipment is used, it may also include procedures, such as taring of scales)
- process requirements, such as:
 - mixing times and speeds
 - purpose and time required to allow mix to proof
 - batter/dough specifications
 - baking times and temperatures
 - oven settings
- effect of variables, such as ambient conditions, on the proving process, dough temperature, gluten development, water addition, yeast activity and consistency of dough
- settings, operating requirements and safety features of equipment used
- product presentation and storage requirements, such as refrigeration, freezing and shelf-life
- inspections/control points used to confirm that product meets quality requirements and related monitoring requirements
- causes of variation and corrective action required, including the role of sugar in browning
- occupational health and safety (OHS) hazards and controls
- waste handling requirements and methods, such as salting down waste to prevent yeast development
- cleaning requirements and procedures
- preparing and applying decorations to finish products where relevant
- forming and filling products where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • plan and prepare ingredients, equipment and processes required for dough • combine and process ingredients according to requirements for type of product • bake or fry product • assess product outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • clean equipment • apply safe work practices and identify OHS hazards and controls • cost final product • apply food safety procedures
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipe instructions • final product specifications and related inspection/control points • mixing, baking/frying equipment • materials/ingredients • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or</p>

EVIDENCE GUIDE	
	work role. An example could be: <ul style="list-style-type: none">• FDFOP2004A Clean and sanitise equipment.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Typical sweet yeast products	<p>Typical sweet yeast products include but are not limited to:</p> <ul style="list-style-type: none"> • Danish pastries • croissants • savarin • brioche • Panettone • Italian cakes • fried cakes <p>These may be prepared from scratch or using pre-mixes</p>
Typical ingredients	Typical ingredients include but are not limited to:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • flour • yeast • sugar • fruit • shortening and emulsifiers
Conditioning ingredients	<p>Conditioning ingredients may include:</p> <ul style="list-style-type: none"> • bringing to required temperature and soaking dry ingredients
Preparation and cooking methods	<p>Preparation and cooking methods vary according to product type. Some products require lamination. Typical cooking methods include:</p> <ul style="list-style-type: none"> • baking • frying
Finishing methods	<p>Finishing methods can include:</p> <ul style="list-style-type: none"> • filling • topping • glazing • soaking in syrup <p>Washes such as milk and egg may be applied prior to cooking and/or baking</p>
Typical equipment	<p>Typical equipment includes:</p> <ul style="list-style-type: none"> • mixers • sieves • lifting equipment • extruders • depositors • dough brake and/or rollers • ovens and frying equipment according to workplace practice and product requirements

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFRB3015A Produce and decorate gateaux and tortes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan, produce and decorate a range of multi-layered gateaux and tortes.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit has application in a retail baking environment within the food processing industry. It targets the worker responsible for the production of bases and fillings and decoration of gateaux and tortes.</p> <p>Note that this unit specifies minimum finishings, fillings and final product preparation requirements. Where these have been covered in earlier units of competency, these aspects of the unit do not need to be reassessed.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFRB2002A	Prepare fillings
	FDFRB2003A	Produce meringue-based products
	FDFRB3001A	Produce pastry

Prerequisite units		
	FDFRB3003A	Produce sponge, cake and cookie batter
	FDFRB3004A	Decorate cakes and cookies
	FDFRB3006A	Bake sponges, cakes and cookies
	FDFRB3007A	Bake pastry products

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and sequence preparation of gateaux and tortes	1.1. Recipe is selected to meet product/customer requirements 1.2. Preparation and production stages are planned
2. Prepare sponges and other bases for use in gateaux and torte production	2.1. Ingredients are selected to suit recipe specifications 2.2. Bases are prepared meet product requirements 2.3. Product is baked to meet quality requirements
3. Prepare fillings and finishes for use in gateaux and tortes	3.1. Recipe is selected appropriate to preparation of fillings and finishes for final product 3.2. Fillings and finishes are prepared according to recipe requirements 3.3. Fillings and finishes meet food safety and quality requirements
4. Assemble gateaux and tortes	4.1. Bases are prepared for assembly 4.2. Bases and fillings are assembled to meet recipe specifications 4.3. The product is covered to meet recipe specifications
5. Finish and decorate gateaux and tortes	5.1. Decorating materials are prepared to meet customer requirements 5.2. Decorations and decorating materials are applied to meet customer requirements 5.3. Final product is presented to meet food safety and customer requirements 5.4. Work is conducted in accordance with workplace environmental guidelines
6. Estimate product cost	6.1. Product ingredients are costed 6.2. Production costs are estimated 6.3. Actual costs are measured against estimated costs

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- given product description and/or customer request, select recipe to meet product/customer requirements
- select ingredients to meet recipe requirements
- price ingredients for use in product
- estimate cost of production
- review recipe to identify preparation and production stages and establish a plan to sequence each step so that ingredients are prepared and available in optimum condition for use
- produce bases to meet recipe requirements, such as:
 - sponge bases
 - meringue bases
 - pastry bases
- prepare fillings, finishings and toppings to meet recipe requirements, such as:
 - mousse
 - ganache
 - chocolate
 - creams/butter creams/pastry creams
 - jams
 - glazes
 - custard
 - fruit
 - cream cheese
 - fondant
 - nougat
- prepare bases for assembly, including cutting or trimming bases as required to meet product requirements
- assemble product to achieve the required layers and shape to meet quality requirements
- cover gateaux and tortes to meet recipe requirements and to achieve the required finish and appearance
- finish and decorate the final product, such as:
 - chocolate-themed gateaux/tortes
 - fruit-themed gateaux/tortes
- store ingredients, finished and part-finished product in appropriate storage

REQUIRED SKILLS AND KNOWLEDGE

conditions

- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- measure actual production costs against estimate and account for any variation
- determine an appropriate price for final products
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- ingredient characteristics, purpose and preparation requirements, such as:
 - scope to substitute or vary ingredients in a recipe
 - the effect of ingredients on shelf-life and food safety
 - characteristics of essences and liqueurs used in baking
 - the role, preparation requirements and uses of additives including colours, flavours and stabilisers
- optimum storage conditions and shelf-life for ingredients and related sequencing and preparation requirements
- optimum conditions for use of ingredients (this varies according to ingredient type and typically includes temperature and may include moisture content)
- the effect of refrigeration and freezing on finished product as appropriate to product type
- storage, handling and preparation requirements, including information to be provided to consumers as appropriate to product type and consistent with food safety requirements
- ingredient suppliers and pricing information
- methods of estimating fixed and variable costs, and profit margin to determine sale price range
- basic awareness of trade practice issues when pricing products
- business policy and parameters in pricing products

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • plan and prepare ingredients, equipment and processes required for gateaux and tortes • combine and process ingredients according to requirements • produce bases and fillings according to requirements • assess outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipes and customer specifications • production equipment appropriate to product type • materials/ingredients to meet recipe requirements • ingredient pricing information • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

EVIDENCE GUIDE	
-----------------------	--

assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------	--

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include</p> <ul style="list-style-type: none"> • verbal or written instructions • standard operating procedures (SOPs) • specifications • production schedules • recipe instructions
Bases	<p>Bases may be produced in:</p> <ul style="list-style-type: none"> • sheets or forms

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3016A Plan and schedule production for retail bakery

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan and schedule work to meet production requirements in a retail bakery or in-store bakery environment.
------------------------	---

Application of the Unit

Application of the unit	This unit applies in a retail bakery environment.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish production requirements	1.1. Identify sales history information 1.2. Identify any special conditions that may affect production requirements 1.3. Estimate production requirements
2. Schedule production to meet requirements	2.1. Calculate dough/batter types and volumes 2.2. Schedule batches to meet customer requirements and equipment capacity 2.3. Communicate production schedule as required according to workplace practice 2.4. Product is available to customer demand in the required quantities, at the required quality and at the required time

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify relevant information, such as sales volumes and purchasing patterns and any conditions that could influence sales
- estimate how much and what type of product is required and the time it should be available (this estimate can be for one day or according to workplace requirements)
- estimate dough weight compared to finished product weight
- determine optimum batch size, number and timing, taking account of process stages, equipment capacity and availability of labour
- produce or complete a production schedule covering each stage of the production process
- regulate dough/batter maturity and proving of yeast products so they arrive at the oven at the optimum time and condition
- develop a production schedule (where a workplace has an existing production schedule format, assessment can be based on completing production schedule details - where there is no established format, the assessee is required to produce a production schedule to describe a daily production requirement)
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- sources of information on sales performance, history and special events
- methods used to regulate dough/batter maturation and proving, including formulation, temperature control and time
- production schedule formats and level of detail as appropriate to meet workplace scheduling requirements
- an overview of baking processes and stages to match production to optimal timing and equipment capacity

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • determine sales patterns and production requirements • conduct estimations and calculations to determine production requirements • schedule production to meet customer requirements • communicate production requirements • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare or complete a daily production schedule given:</p> <ul style="list-style-type: none"> • sales performance, history and other relevant information • product formulations • formulae to calculate batch weight to finished product weight • process equipment and information on capacity.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, workplace environmental guidelines and industrial awards and agreements
Sales history	Sales history identifies the number of products sold over a given period. It may also indicate the pattern of sales over the course of a day
Special conditions	<p>Special conditions that may affect production requirements can include:</p> <ul style="list-style-type: none"> • weather conditions and special events or occasions
Matching equipment capacity	<p>Matching equipment capacity includes:</p> <ul style="list-style-type: none"> • taking account of throughput speed

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB3017A Participate in product development

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to evaluate retail and/or in-store bakery products and modify existing recipes to produce new products.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in a retail baking environment. It targets participation in product development and responsibility for approving new products will typically be at a higher level. Product development must comply with legislative and regulatory requirements.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Research opportunities for new product	1.1. Market characteristics are identified 1.2. Opportunities for product development are matched to market
2. Develop a product proposal to meet market opportunity	2.1. Competing products are evaluated 2.2. Existing formulas are adapted to produce new product 2.3. Method of assembly and presentation is determined 2.4. Cost of production is estimated 2.5. Product concept is presented

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify competitors
- identify local demography relevant to retail bakery products
- determine product development opportunities
- identify the main ingredients and method used to produce competing products
- modify existing formulas/recipes to produce required product
- determine product assembly and presentation
- cost product
- present product proposal
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- sources of information on local market, product range and performance of similar products
- expected quality and taste of products to meet business and customer expectations
- basic composition and methods used to produce retail bakery products relevant to the business
- availability of ingredients and processing equipment required by new product
- food safety issues related to production, preparation, presentation and storage of product
- methods of gaining customer feedback, such as conducting tastings
- methods of estimating fixed and variable costs, and profit margin to determine sale price range
- basic awareness of trade practice issues when pricing products
- communication skills required to research and present information

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • compare and evaluate product features • identify market opportunities • prepare product development proposal, including production processes, costings and rationale • present product ideas.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • local market for which product is to be developed • existing product range, ingredients, recipes/formulas, equipment and methods used in the workplace • product development procedures used in the workplace.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, workplace environmental guidelines and industrial awards and agreements
New products	New products are based on known formulas/recipes
Evaluation of competing products	Evaluation of competing products relies primarily on observation and taste

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFRB4001A Apply marketing principles to retail bakery

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to examine marketplace influences on retail bakeries and determine strategies for promotion and marketing of retail bakery products.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to a retail bakery. It targets the skills of those responsible for the business success of the bakery and requires an examination of trends and influences on retail baking, local market conditions and the selection of promotional strategies for baking products and services in order to meet consumer needs and expectations.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Analyse marketing goals and influences	<p>1.1 Information sources on industry trends are identified and accessed to inform retail baking research</p> <p>1.2 The business plan is examined to determine marketing goals and strategies</p> <p>1.3 Type of retail bakery operation is analysed to determine impacts on promotional and marketing activities, including presentation and product display</p> <p>1.4 Trends in retail baking product range are identified</p> <p>1.5 Market influences on bakery products and presentation are examined</p> <p>1.6 Trends and influences are analysed to determine priorities for promotional and marketing activities</p>
2. Analyse market conditions	<p>2.1 Information is gathered on local population and target market determined and consumer profile identified</p> <p>2.2 Competing businesses are identified and market position and product range examined</p> <p>2.3 Market segmentation for specific bakery products are identified</p> <p>2.4 Consumer dietary needs are identified and impacts on retail baking determined</p> <p>2.5 Cultural and religious influences on retail baking are identified and impacts on retail baking determined</p> <p>2.6 Marketing opportunities are identified for retail bakery products and services</p>
3. Confirm and price product and service range	<p>3.1 Selection of bakery products is confirmed to meet market needs</p> <p>3.2 Type of service for bakery products is confirmed to meet market needs</p> <p>3.3 Position in market is determined and product range is selected accordingly</p> <p>3.4 Costs of production are accessed to determine product profitability</p> <p>3.5 Prices of competitor products are identified and used to inform price point and market position</p> <p>3.6 Costs for products are determined in accordance with production costs, market conditions and position</p> <p>3.7 Process for ongoing monitoring of bakery performance is confirmed to inform product changes</p>
4. Determine presentation for retail bakery	<p>4.1 Visual layout of bakery is designed to promote attractiveness and customer interest</p> <p>4.2 Lighting, décor and showcases are selected to promote bakery</p>

ELEMENT	PERFORMANCE CRITERIA
	appeal in accordance with marketing objectives
	4.3 Promotional props and product information are provided to generate customer sales
5. Determine packaging and presentation of bakery products	5.1 Types of packaging for bakery products are identified and assessed for suitability to meet market conditions
	5.2 Labelling design and features are determined to meet consumer information requirements
	5.3 Compliance of labelling and packaging with legislative requirements is confirmed
	5.4 Display area is examined and suitability to meet consumer needs assessed
	5.5 Options for display and presentation of bakery products are identified and strategy selected to maximise consumer appeal
6. Determine promotional mix for bakery products	6.1 Key events influencing consumer bakery purchases are identified and product range selected
	6.2 Consumer information requirements on bakery products are identified and strategies for meeting these needs are determined
	6.3 Options for marketing and promotion of bakery products are examined and suitable strategies selected
	6.4 Promotional ideas and options are documented

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access and interpret retail bakery business and market information
- analyse research findings and make recommendations
- analyse bakery business plan
- conduct research into bakery operation and consumer base
- make comparisons on product and service suitability
- determine suitability of bakery décor and displays
- cost and price bakery products
- analyse labelling and packaging options and legislative requirements
- assess suitability of promotional strategies
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Knowledge of:

- information sources available to inform marketing activity
- typical bakery products available to meet variety of consumer needs
- promotional resources suitable for bakery operations
- marketing principles and practices
- labelling and packaging options and legislative requirements
- dietary, cultural and religious influences on retail bakery product choice.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access and interpret industry information • analyse the business plan to determine marketing objectives and suitable marketing activity • identify key trends and influences on retail bakery • determine key features of target market • assess market conditions and position bakery • select suitable product range to meet the needs of target market • select showcases, displays and décor to meet marketing objectives • determine product pricing • analyse and select promotional options for bakery, including presentation, packaging and sales strategies.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • retail bakery market data and information.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Information sources	<p>Information sources may include:</p> <ul style="list-style-type: none"> • trade magazines and journals • networks and industry events • other businesses • internet • statistical data and population demographics • dietary and cultural information • colleagues and industry experts • business, marketing and promotional personnel
Specific dietary needs	<p>Specific dietary needs may include:</p> <ul style="list-style-type: none"> • low Glycemic Index (GI) • sugar free and fat free • dairy free • gluten free • rice flour • yeast free • low fat • low salt • vegetarian • vegan
Specific cultural and religious needs	<p>Specific cultural and religious needs may include:</p> <ul style="list-style-type: none"> • foods prepared to cultural and religious dietary laws (e.g. Kosher and Halal) • national and regional food products • foods that mark significant events (e.g. Christmas, Ramadan, Easter, Rosh Hashanah, Passover, Zul Hijjah and weddings) • feasting • fasting • alcohol-free beverages • pork-free foods • beef-free foods
Competing businesses	<p>Competing businesses may include:</p>

RANGE STATEMENT	
	<ul style="list-style-type: none"> • cafes • restaurants • supermarkets • retail outlets • fast food chains • other bakeries
Visual presentation	<p>Visual presentation may include:</p> <ul style="list-style-type: none"> • colours, pictures, wall hangings and fabrics • product posters and price lists • counter, showcases, racks and trays • tables, chairs and dining implements • flooring and lighting • outside areas and awnings • staff outfits and presentation

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

FDFRB4002A Control bakery operations to meet quality and production requirements

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to determine production targets and control production processes in order to meet retail bakery output requirements.
------------------------	---

Application of the Unit

Application of the unit	This unit applies in a retail bakery environment where production requirements are determined by consumer purchasing patterns for bakery products. It applies to those responsible for the production management of the operation in order to meet consumer demand. Processes, such as retardation, are included as techniques used to control production flow.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish production targets	1.1 Sales history information is analysed and current variables considered to determine expected production targets 1.2 Special conditions that may affect production requirements are incorporated into production targets 1.3 Production targets are specified for product range 1.4 Production requirements for specialised product range are identified and incorporated into production planning 1.5 Quality criteria for product range are confirmed 1.6 Production targets are documented according to workplace practice
2. Determine requirements to meet production targets	2.1 Ingredients required to meet production targets are identified and quantities calculated and documented 2.2 Current stock is assessed and material order requirements determined 2.3 Equipment requirements are determined and availability and operational readiness assessed 2.4 Labour requirements to meet production targets are determined 2.5 Specialised skill requirements are identified and resourced 2.6 Production process is mapped to determine flow requirements
3. Determine production processes	3.1 Fermentation techniques are selected according to production requirements 3.2 Retarding strategies are selected according to production requirements 3.3 Strategies for the control and handling of frozen products are selected 3.4 Techniques for controlling retarding are implemented in the production process 3.5 Processes specified are in accordance with workplace environmental guidelines
4. Develop production schedule	4.1 Production is scheduled to meet production targets in accordance with quantity and quality standards 4.2 Production schedule reflects bakery capacity and expected consumer purchase patterns 4.3 Production schedule is documented according to workplace practice
5. Manage production flow	5.1 Production schedule is communicated to relevant staff members 5.2 Availability and readiness of all production requirements are arranged and confirmed 5.3 Production operations are monitored and assessed against

ELEMENT	PERFORMANCE CRITERIA
	production targets
	5.4 Variances to operations are assessed for impact on production outcomes and action taken accordingly
	5.5 Flow of product is monitored to ensure product quality is maintained
6. Assess production outputs	6.1 Achievement of production schedule is assessed and variations determined and documented
	6.2 Quality of bakery products is assessed against established standards
	6.3 Production waste is monitored at each stage of production and waste reduction strategies determined
	6.4 Outputs are documented with production scheduling information

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify relevant information, such as sales volumes and purchasing patterns and any conditions that could influence sales
- estimate how much and what type of product is required and the time it should be available
- calculate dough weight compared to finished product weight
- determine optimum batch size, number and timing, taking account of process stages, equipment capacity and availability of labour
- produce or complete a production schedule covering each stage of the production process
- regulate dough/batter maturity and proofing of yeast products so they arrive at the oven at the optimum time and condition
- develop a production schedule
- ensure availability of stock, human and material resources and equipment in order to meet production requirements
- monitor operations and address variations to production schedule
- compare outcomes against standards and targets
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Knowledge of:

- sources of information on sales performance, history and special events
- methods used to regulate dough/batter maturation and proofing, including formulation, temperature control and time
- production schedule formats and level of detail as appropriate to meet workplace scheduling requirements
- baking processes and stages to match production to optimal timing and equipment capacity
- monitoring procedures
- quality standards.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • determine production targets and requirements to meet targets • conduct estimations and calculations to determine production requirements • determine dough making and retarding processes required for production • schedule production to meet customer requirements • communicate production requirements and ensure resources are available • monitor production to ensure targets are achieved • address any non-conformance to meeting production targets • assess waste in production processes • apply food safety procedures.
Context of and specific resources for assessment	<p>Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare or complete a daily production schedule, including:</p> <ul style="list-style-type: none"> • sales performance, history and other relevant information • product formulations • formulae to calculate batch weight to finished product weight • process equipment and information on machine capacity.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a

EVIDENCE GUIDE

	period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements

Sales history

Sales history may include:

- number of products sold over a given period
- pattern of sales over the course of a day

Special conditions

Special conditions that may affect production requirements may include:

- weather conditions
- special events or occasions affecting orders

Specialised product range

Specialised product range may include:

- products with specific dietary criteria (e.g. gluten free, flourless, wheat free, sugar free, vegetarian and low salt)

Production requirements for specialised product range

Production requirements for specialised product range may include:

- use of specific equipment
- absence of any traces of ingredients in equipment
- use of specialised ingredients
- additional preparation requirements

Retarding strategies

Retarding strategies may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • use of frozen dough • retarding by temperature controls • fermentation strategies • selection of starters
Waste	Waste may include: <ul style="list-style-type: none"> • time • ingredients • space • non-conforming product • human resources • energy

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

FDFRB4003A Apply baking science to work practices

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to apply principles of food science relevant to the production of bakery products.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to the application of technical knowledge of food science as it relates to bakery products. It covers selection and processing of ingredients and production processes in order to maximise quality outcomes.</p> <p>The science of baking processes includes knowledge of how and why reactions occur and specific outcomes achieved, including the skills and knowledge to recognise the cause and effect of these reactions and how to problem solve faults in baking processes.</p> <p>Understanding of these principles is used to inform work in product development, production, testing, communication and problem solving.</p> <p>This unit must be applied to a range of bread, cake and pastry products.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and use ingredients to ensure quality outcomes	1.1 Impact of ingredients on final product is identified and considered in selection, measurement and use 1.2 Processes used in the manufacture of ingredients and their impact on quality are identified and considered in the selection of ingredients 1.3 Types of food additives and corresponding E numbers used in bakery products, their functions and possible reactions are considered in the selection of ingredients 1.4 Reactions and properties of sugars, proteins and fats can be identified and tracked through baking production processes 1.5 Properties of common emulsions, suspensions and solutions and their impacts on quality are considered in the selection of ingredients 1.6 Common chemical reactions and factors required to cause a reaction are managed to control impact on quality 1.7 Legal and quality requirements relating to use of ingredients and food additives are applied 1.8 Knowledge of ingredients, processes and interactions is used to predict product shelf life 1.9 Problems relating to ingredients are identified and addressed
2. Manage nutritional features of bakery products	2.1 Public health and environmental hazards relating to bakery products are identified and controlled in bakery production 2.2 Intolerances to foods, artificial and natural additives used in baking products and typical reactions are identified and considered in product development and labelling 2.3 Allergies and autoimmune diseases relating to bakery products and typical reactions are identified and considered in product development and labelling 2.4 Alternative ingredients, production processes and products are selected to cater to customers with intolerance and allergies 2.5 Role of bakery products in diet and their nutritional features are determined 2.6 Regulations regarding nutritional labelling are applied
3. Control aspects of fermentation	3.1 Role and science of fermentation in bakery products is identified and process variations applied to achieve different outcomes 3.2 Types of fermentation and features of process are examined and selected according to product requirements 3.3 Role of Lactic Acid Bacteria (LAB) in fermentation and influences/factors are identified and managed 3.4 Impact of different fermentation processes on the bakery product

ELEMENT	PERFORMANCE CRITERIA
4. Manage baking processes	<p>is considered in selection of production processes</p> <p>4.1 Role and science of retardation in bakery products is identified and process variations applied to achieve different outcomes</p> <p>4.2 Role and science of freezing in bakery products is identified and process variations applied to achieve different outcomes</p> <p>4.3 Impact of temperature, moisture and time on production and product outcome are considered in management of operations</p> <p>4.4 Impacts of varying baking processes on production and product outcome are considered in production planning and management</p> <p>4.5 Production problems are identified and addressed</p> <p>4.6 Processes specified are in accordance with workplace environmental guidelines</p> <p>4.7 Baking processes are selected and managed to maximise production efficiencies</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify bakery ingredients and group them by function, including:
 - proteins
 - fats
 - carbohydrates
 - additives
- identify the role of enzymes in generating biological reactions (e.g. amylase in bread)
- read and interpret technical information to describe food properties and/or reactions, including recognising and applying appropriate units of measurement and terms
- review and/or establish procedures to describe storage, handling and processing conditions that affect the characteristics of ingredients, such as:
 - changes in pH
 - temperature change
 - specific gravity
 - exposure to light
 - exposure to humidity
 - packaging materials
- review and/or establish procedures to describe the method of preparation and addition of ingredients to food products produced in the workplace
- address production problems and determine root cause
- use oral communication skills language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Knowledge of:

- types of ingredients and production processes used in bakery products
- the functions of ingredients
- what 'E' numbers are and how they apply to baking
- range of allergies and intolerances to bakery products
- the functions, interactions and potential problems associated with ingredients
- coding and labelling systems used to describe ingredients and additives
- the basic molecular structures of carbohydrates, proteins and fats
- for a given production process, the processing stages designed to affect the structure of these compounds

- information sources on allergies and intolerances relevant to baking products
- dough rheology and physical dough testing data
- determinants of bread quality
- hydrogenation of fats and oils
- shelf life prediction and testing
- legal requirements relating to labelling used as established by the Food Standards Code
- typical quantities used and related units of measurement
- preparation requirements
- mechanical and chemical aeration
- health and nutrition issues related to ingredients
- handling and processing conditions that affect the characteristics of ingredients
- typical problems with ingredients and production processes.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify bakery ingredients and describe their function and chemical changes through the production process • describe the nutritional features of bakery ingredients and products • identify possible allergies and reactions to bakery products • describe key baking processes and how and why they impact on ingredients and the final product outcome • identify and address common issues and problems with ingredients and production processes.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • product specifications, including advice on ingredients • Food Standards Code • product range and related production processes • workplace information recording systems, requirements and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFTEC4005A Apply an understanding of food additives • FDFTEC4006A Apply an understanding of legal requirements in food production • FDFTEC4009A Identify the physical and chemical properties of materials, food and related products.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impacts
Bakery products	<p>Bakery products may include:</p> <ul style="list-style-type: none"> • breads • cakes • pastry products
Ingredients	<p>Ingredients may include:</p> <ul style="list-style-type: none"> • yeast • processing aids (e.g. enzymes) • functional ingredients • fat replacers • flours • water • salt • folic acid • eggs and egg by-products • fruit • nuts, seeds and cereals • oils and fats

RANGE STATEMENT	
	<ul style="list-style-type: none"> • improvers • emulsifiers • humectants • dairy products • essences, additives and preservatives • sugar and glucose • jams and fillings • spices
Autoimmune diseases	<p>Autoimmune diseases may include:</p> <ul style="list-style-type: none"> • coeliac disease • Are there others?
Aspects of fermentation	<p>Aspects of fermentation may include:</p> <ul style="list-style-type: none"> • alcoholic fermentation • lactic acid fermentation: • facultative heterofermentative bacteria • obligate heterofermentative bacteria • obligate homofermentative bacteria • microbial growth kinetics (e.g. lag, log, peak and death stages) • metabolic activity

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

FDFRB4004A Produce sourdough products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to produce sourdough bakery products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a retail or wholesale baking environment. It targets the worker responsible for the complete production of sourdough products and requires an approach which incorporates hand moulding and natural fermentation.</p> <p>Sourdough products include those produced using spontaneously fermented doughs and bacteria fermented without the addition of commercial yeast.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Examine features and processes in sourdough production	1.1 Key differences between sourdough and straight dough products and the range of sourdough products are identified 1.2 Implications of using sourdough on production processes and requirements are identified 1.3 Techniques used to produce sourdough are examined and the range of outcomes identified 1.4 Role of ingredients and bacteria in sourdough fermentation and types of yeast are identified 1.5 Benefits of sourdough products and organic ingredients are identified and marketing opportunities examined
2. Produce sourdough starter	2.1 Process for fermentation and development of sourdough starter is selected 2.2 Flour and other ingredients are selected to refresh culture and achieve desired outcomes 2.3 Impacts of flour types, temperature, time and moisture on fermentation is described and typical problems identified 2.4 Ingredients and equipment are selected and prepared for use 2.5 Starter is generated and refreshed to achieve optimum fermentation activity 2.6 Appearance, size and aroma are examined to assess starter maturity
3. Prepare sourdough products	3.1 Ingredients are selected, weighed and mixed according to production requirements 3.2 Bulk fermentation is conducted 3.3 Dough is divided, rested and moulded 3.4 Dough pieces are retarded according to anticipated sales requirements 3.5 Dough pieces are selected at optimum proof and baked according to product requirements 3.6 Final product is cooled, assessed for quality and prepared for sale 3.7 Processes specified are in accordance with workplace environmental guidelines
4. Assess commercial viability of sourdough product	4.1 Marketplace interest in sourdough products is assessed through research 4.2 Product ingredients and production costs are calculated 4.3 Product is priced according to business pricing policy and estimated costs calculated 4.4 Actual costs are analysed 4.5 Product range is selected and produced according to commercial

ELEMENT

PERFORMANCE CRITERIA

viability

4.6 Spoils and waste are recorded

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- evaluate sourdough products within bakery range
- compare and select ingredients for sourdough products
- produce and maintain starter cultures
- mould dough to meet market expectations
- monitor stages in the sourdough fermentation process
- assess product quality
- produce a range of sourdough products
- finish and present bread product to meet product and customer requirements, including applying toppings as required
- clean equipment, utensils and work area to comply with hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- measure actual production costs against estimate and account for any variation
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Knowledge of:

- the science behind the production of sourdough
- techniques and processes in the manufacture of sourdough
- health benefits associated with eating sourdough products
- markets for sourdough produce
- sourdough ingredients and processes, including:
 - preparation techniques
 - processing techniques
 - production techniques
- range of grains in breads and types of specialty flours
- use of pre-ferments, double hydration techniques, use of sprouted grains and use of specialty flours, such as buckwheat and spelt
- different mixing, shaping and baking techniques
- principles and processes involved for extended fermentation doughs
- fermentation process in chemical and natural sourdoughs as this affects dough preparation, baking and final product characteristics, and related food safety issues
- preparation stages and requirements for nominated bread types, including:

- starter preparation
- dough scaling and moulding methods, including sheeting, hand scaling, and mechanical dividing and rounding
- intermediate proof methods
- baking parameters for different bread types
- the effect of ingredients on shelf life and food safety
- optimum storage conditions and shelf life for ingredients and related sequencing requirements
- optimum storage conditions for the finished product prior to sale
- ingredient suppliers and pricing information
- methods of estimating fixed and variable costs, and profit margin to determine sale price range
- trade practice issues when pricing products
- business policy and parameters in pricing products.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • describe the features, benefits and processes that apply to sourdough products • describe the impacts of process and ingredients on sourdough products • produce starter culture • produce a range of sourdough products • identify and address problems with dough development, fermentation and production • investigate market interest in sourdough products • assess outcomes against quality standards • apply safe work practices and identify OHS hazards and controls

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cost final product • apply food safety procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipes and customer specifications • production equipment appropriate to product type • materials/ingredients to meet recipe requirements • ingredient pricing information • personal protective clothing, equipment and material safety data sheets (MSDS), as required • cleaning procedures, materials and equipment as required.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	Legislative requirements are typically reflected in

RANGE STATEMENT	
	<p>procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management and occupational health and safety (OHS)
Ingredients	<p>Ingredients may include combinations of:</p> <ul style="list-style-type: none"> • flour (e.g. rye, white, wholemeal and organic) • water • fruit (e.g. apples, pears and dried fruits) • vegetables (e.g. potatoes and pumpkin) • nuts, grains and seeds • salt • eggs • dairy products • fats and oils
Fermentation problems	<p>Fermentation problems may relate to:</p> <ul style="list-style-type: none"> • temperature • moisture • timing • contamination • ingredients
Sourdough products	<p>Sourdough products may include:</p> <ul style="list-style-type: none"> • Organic • traditional and yeasted breads, cakes and pastries
Market research	<p>Market research may include:</p> <ul style="list-style-type: none"> • customer surveys • product tasting • customer consultations • product trials

Unit Sector(s)

Unit sector	Retail baking
-------------	---------------

FDFRB4005A Apply advanced finishing techniques for specialty cakes and desserts

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to research and apply a range of finishing and decorating techniques for cakes, petit fours, pastries and desserts.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a retail baking environment. It targets the worker responsible for the decoration, finishing and toppings used for bakery products, such as cakes, petit fours, pastries and desserts, in order to meet customer requirements.</p> <p>Note that this unit specifies minimum finishings, fillings and final product preparation requirements. Where these have been covered in earlier units of competency, these aspects of the unit do not need to be reassessed.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
	FDFRB2002A Prepare fillings
	FDFRB2003A Produce meringue-based products
	FDFRB3001A Produce pastry

	FDFRB3003A	Produce sponge, cake and cookie batter
	FDFRB3004A	Decorate cakes and cookies
	FDFRB3006A	Bake sponges, cakes and cookies
	FDFRB3007A	Bake pastry products
	FDFRB3015A	Produce and decorate gateaux and tortes

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Conduct research into finishing and decorating techniques	1.1 Information resources are identified and accessed to inform the technical and creative aspects of finishing and decorating cakes, petit fours, pastries and desserts 1.2 Events and festive seasons celebrated with bakery products are identified and a range of presentations explored 1.3 Research is conducted into taste, texture, appearance and presentation of cakes to determine key features of finished effect 1.4 Resources and suppliers available for creating different finished effects are identified and documented for future use 1.5 Costs associated with different finishing techniques and features are estimated and cost-efficient alternatives identified
2. Design finish and decoration for bakery products	2.1 Purpose and desired effect for bakery product are confirmed with customer or from product development criteria 2.2 Design parameters, including colours, flavours, any special requirements or preferences, budget, required servings and quality are confirmed 2.3 Type of bakery product is assessed to inform decoration and finishing options 2.4 Design for decoration and finishing is developed to meet product/customer requirements 2.5 Feedback is sought from client and design adjusted accordingly and final design confirmed 2.6 Design is documented
3. Plan finishing	3.1 Ingredients used in finishing are examined and key uses and limitations identified 3.2 Plan is developed for bakery product finishing which specifies required resources and plans work sequence 3.3 Ingredients are sourced and prepared for use 3.4 Equipment is prepared for use 3.5 Bakery product is prepared for finishing
4. Produce finishing and decorating effects	4.1 A range of decorative pieces and garnishes are produced 4.2 A range of fillings and toppings are produced 4.3 Bakery product decoration and finishing is completed according to plan and customer requirements 4.4 Work is conducted according to food safety requirements 4.5 Work is conducted to minimise waste and meet workplace environmental standards
5. Cost and price final product	5.1 Product ingredients are costed 5.2 Production costs are estimated

ELEMENT	PERFORMANCE CRITERIA
	5.3 Product is priced within business pricing policy
	5.4 Actual costs are measured against estimated costs
6. Prepare final product for market	6.1 Product shelf life is estimated and required storage conditions identified
	6.2 Bakery product is prepared for display, sale, packaging or presentation

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- select decoration to meet product/customer requirements
- price ingredients for use in product
- estimate cost of decoration
- select ingredients to meet decoration requirements
- prepare finishings and toppings to meet recipe requirements, including:
 - chocolate
 - creams/butter creams/pastry creams
 - glazes
 - fruit
 - cream cheese
- finish and decorate final product
- store ingredients, finished and part-finished product in appropriate storage conditions
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- provide customer advice on storage, preparation and portioning as appropriate to product type and intended use (advice must be consistent with food safety and quality requirements)
- measure actual production costs against estimate and account for any variation
- determine an appropriate price for final products
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Knowledge of:

- ingredient characteristics, purpose and preparation requirements, including:
 - scope to substitute or vary ingredients in a recipe
 - the effect of ingredients on shelf life and food safety
 - the role, preparation requirements and uses of additives, including colours, flavours and stabilisers
- optimum storage conditions and shelf life for finishings and related sequencing and preparation requirements
- optimum conditions for use of finishings, such as temperature and moisture content
- the effect of refrigeration and freezing on finished product as appropriate to product type

- optimum storage conditions for the finished product prior to sale
- storage, handling and preparation requirements of the finished product, including information to be provided to consumers as appropriate to product type and consistent with food safety requirements
- ingredient suppliers and pricing information
- methods of estimating fixed and variable costs, and profit margin to determine sale price range
- trade practice issues when pricing products
- business policy and parameters in pricing products.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • research finishes and decorations for cakes and identify suppliers • design finish and decoration for a minimum of five (5) cakes • plan and prepare ingredients, equipment and processes required for finishing • combine and process ingredients according to requirements • finish and decorate cakes according to requirements using a minimum of three (3) decorative pieces and garnishes • assess outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipes and customer specifications • production equipment appropriate to product type • materials/ingredients to meet recipe requirements • ingredient pricing information • personal protective clothing, equipment and material safety data sheets (MSDS) as required • cleaning procedures, materials and equipment as required.

EVIDENCE GUIDE	
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • verbal or written operating procedures • specifications • production schedules • recipe instructions
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • round icing tube

RANGE STATEMENT	
	<ul style="list-style-type: none"> • bow cutter • blossom cutter • templates • rolling pin • knife • paint brush • a metal scribe • grease-proof piping bags • cornflour dusting bag • cutter • ribbon • cake toppers • spatulas • double boiler, microwave or a chocolate melter • airbrush • moulds • crimpers • cutting wheels • press sets • modelling tools • veiners • whisks • artificial flowers • charms • paper covered wire
Ingredients	<p>Ingredients may include:</p> <ul style="list-style-type: none"> • white sugar paste • gum Tragacanth • chocolate couverture • marzipan • royal icing • food colouring • rolled fondant • edible paper ,edible images, wafer paper and rice paper • edible ink • meringue powder and egg whites • buttercream • pettinice • ganache

RANGE STATEMENT	
	<ul style="list-style-type: none"> • flavours • sprinkles • garnishes • confectionery • glaze
Cakes	<p>Cakes may include:</p> <ul style="list-style-type: none"> • fruit cake • mud cake • torte • continental cakes • croquembouche • sponges • cup cakes • gateaux • special occasion cakes • macaroons • pastries
Decorative pieces and garnishes	<p>Decorative pieces and garnishes may include:</p> <ul style="list-style-type: none"> • sugar flowers • cut shapes • moulded shapes • sculptures • cake toppers
Fillings and toppings	<p>Fillings and toppings may include:</p> <ul style="list-style-type: none"> • syrups • flavoured sources and toppings • cream • cream cheese • glazes • chocolate • pastillage • croquant • marzipan

Unit Sector(s)

Unit sector	Retail baking
-------------	---------------

Custom Content Section

Not applicable.

FDFRB4006A Explore and apply baking techniques to develop new products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to apply baking techniques to create new products that respond to consumer demand or extend commercial offerings of enterprise.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a retail baking environment. It targets application of baking, cooking and food preparation skills and knowledge to create and develop baking products and may include development of products to meet the dietary, religious or cultural needs of customers. This unit includes confirming commercial viability of product development activity and ensuring legislative requirements are adhered to.</p> <p>New products may be new to the enterprise or a variation of existing products. Exploration may involve variations to ingredients or processes to refine the taste, texture, aroma, dietary value, religious or cultural appropriateness, or presentation of the product.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and refine product ideas	1.1 Marketplace opportunity and product ideas are identified 1.2 Marketplace testing is conducted to assess market acceptance of ideas and feedback used to refine concept 1.3 Product concept is developed and documented to determine production requirements 1.4 Commercial viability of product concept is estimated 1.5 Legislative requirements relating to product development are identified and compliance ensured 1.6 Product concept proposal is documented and features and benefits of product described
2. Prepare for product development	2.1 Ingredients and equipment required for production are checked for availability and readiness and ingredient orders completed if required 2.2 Technical aspects of development are identified and production plan prepared 2.3 Work area is prepared according to workplace food safety standards 2.4 Work is conducted according to workplace environmental guidelines
3. Apply baking skills and knowledge	3.1 Production plan is followed and results documented 3.2 Baking skills are applied to experiment with ingredients and production process and assess impacts of variations to product outcome 3.3 Variations to product concept are identified 3.4 Packaging and presentation requirements for product are identified and shelf life determined 3.5 Process and findings are documented
4. Evaluate product concept	4.1 Technical integrity of the product is assessed against quality standards of enterprise and expectation 4.2 Market testing is conducted to assess product acceptance 4.3 Commercial viability of actual production is reassessed and evaluated against enterprise requirements 4.4 Variations and improvements to process and outcome are identified 4.5 Product is reproduced to confirm final specifications 4.6 Product concept is documented and process specified to ensure consistent quality and commercial standards are achieved

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify market opportunities and assess value to enterprise
- conduct basic market testing of product ideas and outcomes
- cost ingredients and production processes to determine estimated and actual costs
- identify the ingredients and method used to produce product
- assess baking process and make adjustments
- determine product assembly and presentation
- present product proposal
- assess commercial viability of products
- evaluate technical properties of product
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce
- research and present information.

Required knowledge includes:

Knowledge of:

- sources of information on local market, product range and performance of similar products
- expected quality and taste of products to meet business and customer expectations
- baking methods used to produce retail bakery products relevant to the business
- availability of ingredients and processing equipment required by new product
- food safety issues related to production, preparation, presentation and storage of product
- methods of gaining customer feedback (e.g. conducting tastings)
- methods of estimating fixed and variable costs, and profit margin to determine sale price range
- trade practice issues when pricing products.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • identify market opportunities and determine commercially viable product solutions • apply baking skills and knowledge to develop product to meet quality standards • evaluate technical aspects of product • prepare product development proposal, including production processes, costings and rationale • present product ideas • conduct market testing.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • local market for which product is to be developed • existing product range, ingredients, recipes/formulas, equipment and methods used in the workplace • product development procedures used in the workplace.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
New products	<p>New products may include:</p> <ul style="list-style-type: none"> • products that meet specific dietary, religious or cultural needs, • products based on established products or involve entirely new ingredient combinations or production or cooking processes
Market testing	<p>Market testing may include:</p> <ul style="list-style-type: none"> • consumer product tasting and sampling • promotional activity • evaluation from colleagues or industry experts
Commercial viability	<p>Commercial viability refers to:</p> <ul style="list-style-type: none"> • the net profit margin of the product • consumer support and repeat purchase • ability to reproduce to establish standards • availability of ingredients • compliance with legislative and regulatory standards • compatibility with business objectives and standards
Technical aspects	<p>Technical aspects relate to:</p> <ul style="list-style-type: none"> • moisture • structure • taste • symmetry • appearance • aroma • organic • yeast free • dairy free • gluten free

RANGE STATEMENT**Experimentation**

Experimentation may relate to:

- variations in ingredients or processes to affect taste, texture, aroma or presentation

Unit Sector(s)**Unit sector**

Retail baking

FDFRB4007A Evaluate and assess bakery product

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to evaluate the quality of bakery products.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a retail baking environment. It incorporates examination of product to identify the features of the product and make judgements about the product quality. This unit can be applied to a specific bakery product range and should be customised to the quality standards of that product range.</p> <p>This skills and knowledge incorporated in this unit are suitable to be applied in the context of product development, product testing or judging product for a baking competition.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine methodology for evaluating product quality	1.1 Bakery product to be evaluated is defined and specific criteria for product is examined 1.2 National and international standards for product range are researched and identified 1.3 Applicable tests and methodologies for assessing product are identified 1.4 Evaluation methodology is selected to ensure standardised approach
2. Apply evaluation methodology	2.1 Volume and general appearance of product is assessed against standard and findings documented 2.2 Texture, aroma, colour and taste of product is assessed against standard and findings documented 2.3 Technical difficulty and originality of product are assessed and findings documented 2.4 Other tests are conducted as required to rate product 2.5 Processes specified are in accordance with workplace environmental guidelines
3. Determine product characteristics	3.1 Product characteristics are rated on all criteria 3.2 Common problems are identified and causes determined 3.3 Strengths and weaknesses of product are determined 3.4 Product characteristics are described and documented
4. Make product comparisons and recommendations	4.1 Product quality is compared with other products of its class 4.2 Recommendations are made for quality rating and commercial positioning of product 4.3 Recommendations for product improvement are made according to findings

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access and apply industry and product class standards and quality criteria
- conduct sensory assessment
- detect qualities of product
- identify problems or faults with product
- make comparative findings
- identify the ingredients and method used to produce product
- evaluate technical properties of product
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce
- research and present information.

Required knowledge includes:

Knowledge of:

- sources of information on product quality criteria
- industry standards for product
- expected quality and taste of products to meet business and customer expectations
- baking methods and ingredients used to produce retail bakery products
- common baking problems and causes
- food safety issues related to production, preparation, presentation and storage of product.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • identify and apply industry criteria to bakery product evaluation • apply industry standard methodology to evaluate criteria • conduct sensory evaluation of product • make comparative assessments of products • identify faults in product and determine cause • make qualitative judgements and recommendations about product quality.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • product quality criteria • products to be assessed.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work

RANGE STATEMENT	
environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Policies and procedures	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
Product characteristics	<p>May include:</p> <ul style="list-style-type: none"> • moisture • taste • quality of ingredients • storage stability and shelf life • viscosity • refraction • measurement • use of ingredients • costs • process and equipment requirements • appearance • texture • aroma • colour • packaging • microbiological testing • technical difficulty • volume • originality
Tests	<p>Tests may include:</p> <ul style="list-style-type: none"> • triangle • descriptive • rating • desirable product qualities • texture evaluation by bite • flavour evaluation • overall degree of liking
Appearance	<p>Appearance may include:</p> <ul style="list-style-type: none"> • symmetry and volume

RANGE STATEMENT	
	<ul style="list-style-type: none"> • presentation and cleanliness • character of spring • soundness • bloom • colour • general character and uniformity
Texture	<p>Texture refers to:</p> <ul style="list-style-type: none"> • evenness of internal texture • cell size • shape fineness of walls • holes • softness • crumb stability
Aroma	<p>Aroma refers to:</p> <ul style="list-style-type: none"> • the internal smell of product
Colour	<p>Colour should be:</p> <ul style="list-style-type: none"> • appropriate to the product
Bakery products	<p>Bakery products may include:</p> <ul style="list-style-type: none"> • breads • pastries • cakes • meat pies and savouries
Common faults	<p>Common faults for bread products include:</p> <ul style="list-style-type: none"> • holes in internal texture of loaf from moulding or grains being too wet • uneven or tearing break and crust • uneven colour and texture • under/over mixing, moulding and/or poor volume • crust lift/separation at the top of the loaf • too much or too little fruit • breaking apart of fruit • over proofing • under baking <p>Common faults for cake products include:</p> <ul style="list-style-type: none"> • overmixing of batter

RANGE STATEMENT

- bubbles
- top layer too crowded
- inside surface of pastry under baked
- over baking with pastry edges burnt
- unstable fillings
- excessive sugar
- filling too wet
- non-uniformity
- decorations not in proportion to the cake
- uneven distribution of flavors

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

Custom Content Section

Not applicable.

FDFRB4008A Set up sustainable baking operations

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to examine the implications of sustainability on bakery operations and develop plans for sustainability.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit targets the planning of key requirements in setting up a sustainable retail bakery business. It applies to the business owner/operator or senior baker and includes the development of a plan that identifies physical layout and facilities, production processes and movement of staff and resources with a view to maximising sustainability outcomes. It incorporates identifying and addressing the implications associated with the style of bakery and explores environmental impact and generation of waste.</p> <p>This unit may be applied to the set-up of a new operation or the assessment of the set-up of an existing operation. It requires access to the bakery business plan.</p> <p>It targets additional skills for bakery-specific sustainability practice beyond the unit MSAENV472B Implement and monitor environmentally sustainable work practices.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Conduct sustainability related research for the bakery business	1.1 Industry information resources are identified and accessed to maintain bakery business knowledge 1.2 Sustainability related regulatory requirements, drivers and influences that impact on the baking industry are analysed and assessed for relevance to business operations 1.3 Information is assessed and used to inform a sustainability plan for the business 1.4 Bakery business plan is examined and implications for set-up identified and prioritised
2. Analyse sustainability implications for bakery	2.1 The style of bakery and key characteristics and operational implications are confirmed 2.2 Implications for layout, equipment, stock and staffing are identified and incorporated into set-up planning 2.3 Criteria for sustainability in bakery operation are determined and strategies for achieving sustainability identified
3. Develop layout plan for bakery	3.1 Production area is measured and documented, including identification of services, openings and fixed facilities 3.2 Production process is mapped and a layout plan developed to identify placement of equipment and processes 3.3 Service and/or distribution requirements are examined and mapped 3.4 Layout is assessed for its efficiency, occupational health and safety (OHS) and potential for environmental impact 3.5 Potential for generating waste through production and service/distribution process is identified 3.6 Opportunities to reduce waste and increase efficiencies are identified and incorporated into planning 3.7 Layout plan is finalised and checked to ensure accuracy and completeness
4. Determine equipment requirements	4.1 Range of products and services to be offered are confirmed 4.2 Production equipment, services and facilities, and storage and transfer equipment options required for business operations are identified 4.3 Presentation and display equipment requirements are identified and options assessed against décor and image objectives 4.4 Equipment options are researched and assessed for appropriateness in meeting business plan goals, targets and budgets 4.5 Equipment features are assessed for their efficiency in relation to waste and energy and resource consumption and options

ELEMENT	PERFORMANCE CRITERIA
	prioritised according to sustainability
	4.6 Equipment is selected based on economic value, operational efficiency and environmental performance
	4.7 Equipment schedule is itemised, costed and documented
5. Determine stock requirements	5.1 Stock requirements for product range and quality criteria are identified and quantities estimated
	5.2 Stock options are assessed for their economic value, quality and their impact on the environment resulting from production and distribution processes
	5.3 Stock is specified based on economic value, quality and environmental performance
	5.4 Suppliers are researched and selected to support ongoing operations
	5.5 Purchasing schedule is developed, costed and documented
6. Determine human resource requirements	6.1 Activities and tasks required to operate bakery are identified
	6.2 Number of staff required is determined and job roles documented
	6.3 Costing implications of staff are calculated
7. Assess environmental sustainability of bakery	7.1 Concept of carbon footprint is described and types of environmental impact of bakery operations are identified
	7.2 Opportunities for improving environmental performance of operations are identified
	7.3 Measures of environmental performance are identified
	7.4 Strategy for ongoing monitoring of environmental performance is developed and documented

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify relevant information for bakery operation and assess information sources
- analyse bakery business plan
- compare products and services
- assess impact of trends and influences on bakery operations
- calculate costs associated with equipment, stock and human resources
- document plans
- conduct research
- analyse functions and processes within a retail bakery
- apply sustainability concepts to operations
- interpret information on environmental performance of products, services and equipment
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Knowledge of:

- sources of bakery business and industry information
- equipment used in retail bakery
- product and service range within retail bakery operations
- concepts of process flow, waste and energy efficiency.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • determine stock, equipment and human resources required for bakery operation • evaluate options for facilities and production operations • map bakery processes • identify sustainability issues for bakery and implications for operations • identify opportunities for improvement • develop sustainability plans that demonstrate an understanding of product and service flow and waste minimisation.
Context of and specific resources for assessment	Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to: <ul style="list-style-type: none"> • prepare or complete set-up plans given location and market information for bakery.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Research	<p>Research may include:</p> <ul style="list-style-type: none"> • on-site visits • stakeholder engagement • trade publications • internet resources • engagement of professional services, such as solicitors, accountants, baking associations, business advisors, bakery operators, bakers, suppliers, and sustainability or lean manufacturing experts
Bakery businesses	<p>Bakery businesses may include:</p> <ul style="list-style-type: none"> • country style bakery • café bakery • franchise • retail bakery • specialist bakery, such as sourdough • wholesale bakery
Implications	<p>Implications may include:</p> <ul style="list-style-type: none"> • requirement to adhere to established criteria • scope of operation and product range • requirement for specific staffing expertise • time and process requirements for production • production methodologies • quality of ingredients • supply criteria • quantities and timelines for production • customer demands
Criteria for sustainability and environmental performance	<p>Criteria for sustainability and environmental performance may include:</p> <ul style="list-style-type: none"> • energy consumption

RANGE STATEMENT	
	<ul style="list-style-type: none"> • water consumption • use of alternative energy sources • type and transportation of ingredients and materials • use of chemicals and treatments • waste treatment, disposal, recycling, re-use and wastewater treatment • resource consumption • process efficiencies • waste
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • excessive use of energy or material resources • overproduction • unnecessary movement of people, stock and product • unproductive time • faulty products or non-compliances with workplace standards • duplication • unnecessary costs • pollution
Stock requirements	<p>Stock requirements may include:</p> <ul style="list-style-type: none"> • ingredients • disposable supplies • water • cleaning agents • power

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

FDFRB4009A Coordinate material supply for baking processes

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to research, select and establish suppliers for a bakery enterprise and coordinate the ongoing procurement to ensure quality and quantity targets are achieved.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to a retail bakery. It targets those responsible for acquiring ingredients, equipment and other resources, and developing supply relationships required for the day-to-day operation of bakery enterprise. This unit requires an ability to assess the quality and value of baking ingredients and services.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFRB4003A	Apply baking science to work practices

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Confirm stock requirements for bakery	1.1 Production schedule and product range are analysed to identify stock and ordering requirements 1.2 Quality criteria for ingredients and other material supplies is identified 1.3 Range, type and volume of flour, yeast and other key baking ingredients required for operations are confirmed 1.4 Specifications and material safety data sheets (MSDS) relating to bakery stock are interpreted and confirmed 1.5 Special requirements are identified, including handling requirements for hazardous materials and storage conditions for bakery ingredients 1.6 Seasonal impacts on availability of bakery ingredients are identified and reflected in supply requirements 1.7 Stock requirements are documented according to workplace practice
2. Evaluate bakery suppliers	2.1 Existing suppliers for baking materials and other resources are identified and value add determined 2.2 Inputs to suppliers are determined and implications for bakery identified 2.3 Impacts of costs, service, quality and response times on bakery operations are determined 2.4 Supply relationships are examined for suitability to bakery operation 2.5 Types of supply arrangements are examined for suitability to bakery operations
3. Negotiate arrangements with suppliers	3.1 Research is conducted to identify suppliers for required ingredients according to production schedule 3.2 Sustainability criteria are used to assess value of suppliers 3.3 Suppliers are analysed and compared to make selection according to the quality, sustainability, delivery and cost requirements of the business 3.4 Ingredient knowledge is applied to identify quality standards, most suitable variations or alternatives 3.5 Suppliers are selected and supply relationships established 3.6 Supply arrangements are confirmed and documented according to the business needs
4. Monitor supply	4.1 Suppliers are monitored to ensure materials are received according to specifications 4.2 Variations in requirements due to marketing or product

ELEMENT	PERFORMANCE CRITERIA
	development activity are accommodated in supply arrangements
	4.3 Ingredient quality is regularly checked against established criteria
	4.4 Problems with supply are addressed and changes to arrangements made as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access and interpret retail bakery business and supplier information
- analyse research findings and make recommendations
- establish supply relationships
- make comparisons on product and service suitability
- cost and price bakery ingredients
- analyse labelling and packaging options and legislative requirements
- monitor compliance with supply arrangements
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Knowledge of:

- information sources available to inform supply activity
- specifications and MSDS documentation for bakery materials
- procurement procedures for business
- labelling and packaging options and legislative requirements for bakery operations
- range of bakery ingredients and alternatives.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • select suppliers for bakery ingredients to meet the quality, quantity and cost criteria of the business • research suppliers and make comparative judgements about supply suitability • apply knowledge of bakery ingredients to determine supply requirements and quality • solve supply related problems • ensure supply meets the production requirements of the business • complete documentation relating to supply.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • retail bakery production schedule and product range.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency of performance, competency should be assessed on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT
The range statement relates to the unit of competency as a whole. It allows for different work

RANGE STATEMENT	
environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Research	<p>Research may include:</p> <ul style="list-style-type: none"> • trade magazines and journals • networks and industry events • other businesses • internet • trade shows • business, marketing and promotional personnel
Inputs to existing suppliers	<p>Inputs to existing suppliers may include:</p> <ul style="list-style-type: none"> • organic certification • genetic modification • quality standards • sustainability credentials • supply relationships • reputation
Supply chain relationships	<p>Supply chain relationships may include:</p> <ul style="list-style-type: none"> • partnership arrangements • manufacturer to retailer • manufacturer to distributor • distributor to retailer
Supply arrangements	<p>Supply arrangements may include:</p> <ul style="list-style-type: none"> • managed inventories • collaborative forecasting • quick response • just in time • continuous replenishments
Sustainability criteria	<p>Sustainability criteria may include:</p> <ul style="list-style-type: none"> • environmental, economic and social implications and impacts
Special requirements	<p>Special requirements may include:</p> <ul style="list-style-type: none"> • low Glycemic Index (GI) • sugar free and fat free • dairy free

RANGE STATEMENT

- gluten free
- rice flour
- yeast free
- low fat
- low salt
- vegetarian
- vegan
- delivery times
- extra quantities
- quality or grade
- organic
- biodynamic
- halal
- kosher

Unit Sector(s)**Unit sector**

Retail baking

FDFRB4010A Prepare plated sweets and desserts

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prepare a range of hot, cold and frozen sweets and desserts for plate presentation.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in a retail baking environment. It targets the worker responsible for the preparation of sweets and desserts according to recipe and in accordance with quality standards. Presentation may be for bakery or café style operation and includes foods from varying cultural origins using classical or contemporary recipes.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for production	<p>1.1 Purpose and desired effect for sweets and desserts are confirmed with customer or from product development criteria</p> <p>1.2 Product parameters, including colours, flavours, any special requirements or preferences, budget, required servings and quality, are confirmed</p> <p>1.3 Cultural influences on product type and production techniques are identified and considered in preparation</p> <p>1.4 Recipe is selected and ingredients measured and weighed</p> <p>1.5 Cooking methods required are determined and appropriate equipment prepared</p>
2. Produce sweets and desserts	<p>2.1 Sweets and desserts are prepared according to recipe and quality standards</p> <p>2.2 Cooking methods are applied to produce desired effect</p> <p>2.3 Hot and cold sauces are produced to required consistency and flavour according to product requirements and using appropriate ingredients and techniques</p> <p>2.4 Portions are allocated according to workplace standards</p> <p>2.5 Work is conducted to minimise waste and meet workplace environmental standards</p>
3. Produce finish effects	<p>3.1 A range of decorative pieces, accompaniments and garnishes are produced to enhance taste, texture and balance</p> <p>3.2 A range of fillings and toppings are produced</p> <p>3.3 Decoration and finishing is completed according to work requirements and in a manner which complements the product</p> <p>3.4 Work is conducted according to food safety requirements</p>
4. Cost and price final product	<p>4.1 Product ingredients are costed and production costs estimated</p> <p>4.2 Product is priced within business pricing policy</p> <p>4.3 Actual costs are measured against estimated costs</p>
5. Prepare final product for display or storage	<p>5.1 Product shelf life is estimated and required storage conditions identified</p> <p>5.2 Product is prepared for display or presentation and packaging selected as required to enhance appearance and preserve quality and taste</p> <p>5.3 Product is stored at appropriate temperature and under the correct conditions to maintain quality, freshness and customer appeal</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- price ingredients for use in product
- estimate cost of production
- select ingredients to meet production requirements
- prepare a range of sweets and desserts to meet recipe requirements
- finish and decorate the final product
- clean equipment and utensils to meet hygiene standards
- maintain workplace records as required
- maintain work area to meet housekeeping standards
- determine storage, preparation and portioning as appropriate to product type and intended use
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Knowledge of:

- characteristics, ingredients and cooking methods required for a range of sweets and desserts
- ingredient characteristics, purpose and preparation requirements
- details and characteristics of different types of desserts and sweets
- varieties of suitable ingredients and their uses for desserts and sweets
- past and current trends in desserts and sweets
- nutrition related to desserts and sweets, including food values of common desserts and low-fat or low-kilojoule alternatives and substituted ingredients
- storage of sweets, desserts and dessert ingredients, particularly dairy products
- costing, yield testing and portion control for desserts
- optimum storage conditions and shelf life for sweets and desserts and related sequencing and preparation requirements
- optimum conditions for use of finishings (This varies according to ingredient type and typically includes temperature and may include moisture content)
- the effect of refrigeration and freezing on finished product as appropriate to product type
- optimum storage conditions for the finished product prior to sale
- storage, handling and preparation requirements of the finished product, including an understanding of information to be provided to consumers as appropriate to product type and consistent with food safety requirements
- ingredient suppliers and pricing information

- business policy and parameters in pricing products.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • produce a range of sweets and desserts • plan and prepare ingredients, equipment and processes required for production • combine and process ingredients according to requirements and desired effect • finish and decorate sweets and desserts according to requirements • assess outcomes against quality standards • take corrective action in response to typical faults and inconsistencies • apply safe work practices and identify OHS hazards and controls • apply food safety procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures including advice on relevant product requirements, safe work practices, food safety, quality and environmental requirements • recipes and customer specifications • production equipment appropriate to product type • materials/ingredients to meet recipe requirements • ingredient pricing information • personal protective equipment (PPE) and material safety data sheets (MSDS) ,as required • cleaning procedures, materials and equipment as required.
Method of assessment	This unit should be assessed together with core units and other units of competence relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to:</p> <ul style="list-style-type: none"> company policies and procedures regulatory and licensing requirements legislative requirements industrial awards and agreements
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> the Food Standards Code, including labelling, weights and measures legislation legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity
Workplace information	<p>Workplace information can include verbal or written:</p> <ul style="list-style-type: none"> operating procedures specifications production schedules recipe instructions
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> mixers blenders ice-cream machines

RANGE STATEMENT	
	<ul style="list-style-type: none"> • ice makers • juicers or vitamisers
Desserts and sweets	Desserts and sweets may include: <ul style="list-style-type: none"> • puddings, pies, tarts, flans and fritters • custards and creams • prepared fruit • charlotte, bavarois, mousse, soufflé and sabayon • meringues, crepes and omelettes • sorbet, ice-cream, bombe and parfait
Decorative pieces and garnishes	Decorative pieces and garnishes may include: <ul style="list-style-type: none"> • sugar flowers • cut shapes • moulded shapes
Sauces	Sauces may include: <ul style="list-style-type: none"> • sugar syrups • fruit syrups • fruit purées, sauces and coulis • chocolate-based sauces • sabayon and zabaglione • custards and crèmes • flavoured butters and creams

Unit Sector(s)

Unit sector	Retail baking
--------------------	---------------

FDFSUG101A Install pre-ballast

Modification History

New Unit based on *SUGSPPB1A Prepare pre-ballast*.

Unit Descriptor

This unit describes the outcomes required to lay pre-ballast in preparation for laying railway track for a cane haulage system.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare work	<ul style="list-style-type: none">1.1 The location and scope of work are identified1.2 Materials required to complete the work are confirmed and available1.3 Equipment status is confirmed1.4 Personal protective equipment is selected, correctly fitted and used1.5 Safety procedures are followed to confirm that work is clearly signed and relevant authorities are advised that work is in progress1.6 Site is inspected prior to commencing work to identify and remove potential hazards
2. Set out base and run pre-ballast	<ul style="list-style-type: none">2.1 Base/foundation is set out from off-set pegs to centre line and width for ballast according to track design and specifications2.2 Pre-ballast is applied evenly to meet specified thickness2.3 Pre-ballast is compacted to meet specifications
3. Complete work	<ul style="list-style-type: none">3.1 The construction area is cleared of debris3.2 Unused materials are stored as required3.3 Tools, plant and equipment is cleaned and stored as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret workplace information such as drawings and related instructions to identify the project requirements
- estimate material requirements for a given project
- assess operational status of pre-ballast laying equipment
- operate pre-ballast equipment to lay and compact materials to the required location and thickness
- identify faulty operation of equipment
- identify unacceptable work outcomes
- take corrective action in response to abnormal or unacceptable performance
- use appropriate communication methods and equipment
- report and/or record corrective action as required
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- understanding of the steps involved in constructing/repairing track
- functions and basic operating principles of pre-ballast laying equipment
- the impact of the pre-ballast base on related track laying operations
- the quality requirements of the foundation including the materials used, thickness and compactness of foundation
- common problems related to laying pre-ballast and corrective action required
- traffic control signage, communication and procedures
- safe work procedures including awareness of health and safety hazards related to pre-ballast laying and associated control measures and safe manual handling procedures
- purpose and limitations of protective clothing and equipment
- environmental issues and controls
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • estimate material requirements for a given project • operate pre-ballast equipment to lay and compact materials to the required location and thickness • take corrective action in response to abnormal or unacceptable performance.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Site and related project information • Relevant codes of practice and industry standards • Spreader, roller and related equipment • Materials handling equipment as required • Operating procedures and related advice on equipment operation • Base materials - typically gravel and stone • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • manufacturer's specifications.
Cane railway networks	Cane railway network features and their characteristics may include: <ul style="list-style-type: none"> • main and branch lines • yards • sidings • loops • dump points and pads • and road transport delivery points.
Information systems	Information systems may be print or screen based.
Equipment	Equipment may include: <ul style="list-style-type: none"> • materials handling equipment such loaders and jacks, • spreader • roller and • compacting equipment.
Equipment status	Confirming equipment status involves <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that all safety guards and equipment are ready and safe to operate.
Teamwork	Work may require the ability to work within a team environment.
Communication	Communication methods may include:

	<ul style="list-style-type: none">• use of two-way radios.
--	--

Unit Sector(s)

Sugar Milling

FDFSUG102A Undertake shunting operations

Modification History

New Unit based on *SUGTPSTIA Prepare for shunting operations*.

Unit Descriptor

This unit describes the outcomes required to prepare and direct the physical movement of rolling stock to meet requirements of the marshalling strategy.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare for shunting operation	1.1 Personal protective clothing and equipment is selected and used 1.2 Health and safety hazards/maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures 1.3 Shunting requirements are interpreted from the marshalling strategy 1.4 Vehicles and equipment are located and prepared in accordance with marshalling strategy 1.5 Rolling stock movements, availability and locations are established in order to determine appropriate siding and/or track locations for vehicle placement
2 Carry out shunting control procedures	2.1 Points, levers, switches, signals and line of sight communications are used to assist the control of rolling stock movement 2.2 Hand, light and radio shunting commands conform with operational and statutory requirements 2.3 Consignment notes/tickets are checked and bins are located and sorted to comply with marshalling requirements 2.4 Coupling and uncoupling procedures are carried out to attach and detach rolling stock
3 Complete work	3.1 Workplace information is recorded according to workplace recording requirements 3.2 Tools, plant and equipment are cleaned and stored as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret the marshalling strategy
- select, fit and use personal protective clothing and/or equipment
- identify equipment requirements and carry out pre-start checks
- plan shunting operations to meet requirements of the marshalling plan
- use electronic data transfer and capture systems for mobile data collection as required
- demonstrate hand signals including use of lighting
- communicate with the locomotive operator to direct the positioning of rolling stock as required
- identify faults in bins and/or equipment
- take corrective action in response to abnormal or unacceptable quality of bins or rolling stock or equipment performance
- use appropriate communication methods and equipment
- report and/or record corrective action as required
- maintain workplace records
- maintain work area to meet housekeeping standards

Required knowledge include:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to work responsibilities and associated control measures
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- purpose and limitations of protective clothing and equipment
- functions and basic operating principles of equipment
- the requirements of cut to crush sequencing of cane rakes
- acceptable locomotive, bin and rake condition and procedure for tagging and reporting bins requiring repair
- communication procedures, methods and equipment including the meaning of hand and audible signals
- procedures for responding to emergency situations including use of two-way radio system to report emergencies
- environmental issues and controls
- requirements to liaise/advise related work areas
- housekeeping standards for the work area

- reporting and recording system

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • interpret the marshalling strategy • plan work to meet requirements of the marshalling plan • communicate with the locomotive operator • take corrective action with regard to bins and rolling stock.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Marshalling strategy • Operating procedures and related advice on equipment operation • Cane railway system • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • manufacturer's specifications.
Documentation and recording requirements	Documentation and recording requirements may include <ul style="list-style-type: none"> • marshalling strategy • documentation relating to the traffic schedule such as run slips and loco running sheets • log books and employee time sheets/records.
Transport network features	Cane transport network features and their characteristics may include: <ul style="list-style-type: none"> • main and branch lines • yards • sidings • loops • dump points and pads • and road transport delivery points.
Hazards	Hazards include working with moving machinery, manual handling and working in exposed conditions.
Information systems	Information systems may be print or screen based.
Locomotives	Locos may or may not be fitted with brake vans.
Equipment status	Confirming equipment status involves conducting relevant pre-start checks, confirming that all safety guards and equipment is ready and safe to operate.

Teamwork	Work may require the ability to work within a team environment.
Communication methods	Communication methods include use of two-way radios used in accordance with workplace requirements and state authority protocols.

Unit Sector(s)

Sugar Milling.

FDFSUG103A Move cane bins in a marshalling yard

Modification History

New Unit based on *SUGTCYMIA Control yard movements*.

Unit Descriptor

This unit describes the outcomes required to move cane bins in mill storage and marshalling yards to ensure efficient cane supply operations. Empty and full yards may be a combined yard.

Application of the Unit

This unit has application in the cane bins marshalling yards of a sugar mill.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for work in a cane bin marshalling yard	1.1 Personal protective clothing and equipment is selected and used 1.2 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Move full cane bins	2.1 Continuity of cane supply to mill is managed to meet cut to crush sequence 2.2 Cane bins are connected to the weighbridge system in accordance with workplace procedures 2.3 Yard control systems are operated to potential 2.4 Bins are un-coupled in accordance with OHS requirements and workplace procedures
3 Move empty cane bins	3.1 Bin supply to empty yard is managed to meet traffic schedule requirements 3.2 Bins are re-coupled/pinned in accordance with OHS requirements and workplace procedures 3.3 Yard control systems are operated to potential
4. Analyse and respond to unacceptable performance	4.1 System operating conditions are monitored to identify causes of unacceptable performance 4.2 Yard derailments are reported and rectified in accordance with workplace procedures 4.3 Bins requiring repair are identified and removed to bin repair line 4.4 System error messages are responded to and appropriate corrective action is taken

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- select, fit and use personal protective clothing and/or equipment
- confirm yard control status at start up
- monitor yard capacity to direct cane bins to appropriate yard location
- operate systems (either automated or manual) to locate bins in required location
- monitor supply of full bins to the weighbridge system to meet cut-to-crush sequence
- connect rake to weighbridge system
- couple and uncouple cane bins safely to meet required length
- receive and report derailments
- divert damaged bins for repair
- monitor marshalling yard including checking:
 - that bins are recoupled to meet requirements of traffic schedule
 - that bin identifiers match the actual bins
 - the position of locos in the yard
- liaise with loco and equipment drivers
- use communication systems including use of a 2-way radio and hand and audible signalling
- complete yard control records and prepare for changeover
- take corrective action in response to abnormal equipment and/or system performance, including derailments

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and industry codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to yard control and associated control measures
- workplace documentation including consignment notes and trip/cut-to-crush documentation
- functions and basic operating principles of equipment and systems used
- function and location of signalling devices used to monitor cane bin movements in the yard
- cane yard system layout and line holding capacities
- implications of sub-optimal cut to crush times for mill performance and of disrupted supply
- operating requirements and controls
- communication system protocols
- procedures for responding to emergency situations
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • monitor yard capacity to direct cane bins to appropriate yard location • sequence supply of full bins to the weighbridge system to meet cut-to-crush sequence • couple and uncouple cane bins safely to meet required length • liaise with loco and equipment drivers • use communication systems.
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • Assessment must occur in a real or simulated workplace where the assessee has access to: • Cane yards and related signalling and control systems • Cane locos (does not include operation) • Relevant codes of practice and industry standards • Bin consignment and trip/cut-to-crush documentation • Operating procedures and related advice on equipment operation • Loaded and empty bins • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p> <p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • traffic schedules • manufacturer's specifications.
Information systems	Information systems may be print or screen based.
Equipment	Equipment may include: <ul style="list-style-type: none"> • 2-way communication system • mimic or computer board • process control interface and • related control system.
Signalling devices	Signalling devices typically include: <ul style="list-style-type: none"> • colour aspect lights • mechanical signage.
Rakes	Movement of rakes may be: <ul style="list-style-type: none"> • automated • done using a dedicated loco, tractors or • using winch equipment.
Teamwork	Work may require the ability to work within a team environment
Communication methods	Communication methods include: <ul style="list-style-type: none"> • use of two-way radios used in accordance with workplace requirements and state authority protocols and

	<ul style="list-style-type: none">• hand and audible signalling.
--	--

Unit Sector(s)

Sugar Milling.

FDFSUG104A Check a cane sample for extraneous matter

Modification History

New Unit based on *SUGTAEMIA Assess extraneous matter in cane*.

Unit Descriptor

This unit describes the outcomes required to carry out a visual and physical assessment of extraneous matter in cane samples upon arrival at a sugar mill.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for assessment of cane	<ul style="list-style-type: none">1.1 Personal protective clothing and equipment is selected and used1.2 Health and safety hazards/maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures1.3 Cane sample is collected according to workplace procedure1.4 Weighing equipment is prepared for operation
2 Assess extraneous matter in cane	<ul style="list-style-type: none">2.1 Cane sample is inspected and sorted according to workplace procedure2.2 Extraneous matter in cane is assessed according to workplace procedure2.3 Results of assessment are recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information on operating requirements
- select, fit and use personal protective clothing and/or equipment
- collect cane samples for testing according to workplace procedure
- confirm that scales are tared or zeroed and operating correctly
- conduct visual and physical assessment of cane
- record results
- identify and report cane assessments that are not within specification
- follow procedures to repeat or validate results as required
- maintain work area to meet housekeeping standards
- maintain workplace records

Required knowledge includes:

Knowledge of:

- purpose of extraneous matter test and nature of extraneous matter typically found in cane
- conditions and practices that affect the level of extraneous matter found in cane
- the effect of high levels of extraneous matter on downstream operations
- safe work procedures including awareness of health and safety hazards related to turbine operation and associated control measures
- methods used to sort and calculate extraneous matter in a sample
- method and purpose of taring or zeroing weighing equipment
- procedure for reporting faulty weighing equipment

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • collect cane samples for testing according to workplace procedure • conduct visual and physical assessment of cane • follow procedures to repeat or validate results as required.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Sampling plan • Extraneous matter/quality specifications • Weighing equipment • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • sampling plans and • cane extraneous matter/quality specifications.
Cane inspection and assessment	Cane inspection and assessment may be visual and/or by weight.
Hazards	Hazards typically include those associated with manual handling.
Preparation of weighing equipment	Preparation of weighing equipment typically includes: <ul style="list-style-type: none"> • taring or zeroing scales and • confirming calibration using check weights.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling

FDFSUG105A Manually clean and maintain housekeeping standards

Modification History

New Unit based on *SUGCMCH1A Manually clean and maintain housekeeping standards*.

Unit Descriptor

This unit describes the outcomes required to carry out manual cleaning and housekeeping procedures where there is no requirement to use tools to dismantle equipment.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare cleaning and sanitizing agents, tools and equipment for cleaning	1.1 Cleaning and sanitizing agents, equipment and services are prepared for use 1.2 Equipment is safe to clean
2 Manually clean equipment	2.1 Equipment is cleaned to meet requirements 2.2 Equipment is prepared for operation after cleaning 2.3 Cleaning data is recorded according to workplace recording requirements
3 Collect and dispose of waste	3.1 Waste is sorted and collected as required 3.2 Waste is recycled, transferred for rework or further treatment or disposal as required
4 Maintain housekeeping standards of the work area	4.1 The work area is inspected to any non-compliance with housekeeping standards 4.2 Equipment and the work area meet housekeeping standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access and apply workplace information to identify cleaning requirements
- identify the cleaning and sanitizing agents used
- handle cleaning and sanitation agents safely including following correct handling and preparation procedures and use of appropriate protective clothing and equipment
- prepare cleaning and sanitizing agents as required
- prepare equipment for cleaning including rendering equipment safe to clean and clearing all materials, consumables and waste
- advise affected work areas of cleaning schedule and progress
- clean/sanitize equipment as required according to procedures
- return equipment to operating order
- maintain housekeeping standards
- contain spills and dispose of spilled material according to company procedure
- store cleaning agents and equipment as required
- record cleaning and sanitation data in required format

Required skills include:

Knowledge of:

- basic purpose of cleaning/sanitizing and housekeeping
- safe handling and storage of requirements of cleaning agents and equipment used
- purpose of protective clothing and equipment related to cleaning role
- action required in the event of an accident when handling cleaning chemicals
- methods used to render equipment safe to clean including lock-out, tag-out and isolation procedures where relevant
- housekeeping and cleaning standards and methods relevant to equipment and the work area
- procedures for preparing cleaning/sanitizing agents including consequences of mixing incorrectly and combining incompatible chemicals
- procedures for applying cleaning/sanitizing agents
- procedures for safe use of cleaning/sanitizing equipment and chemicals
- types of waste generated by both the production and the cleaning process and related collection, treatment and disposal requirements
- spill control procedures and recycling or disposal of spilled materials including environmental responsibilities covered by environmental legislation
- requirements to liaise/advise related work areas

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Requires the ability to:</p> <ul style="list-style-type: none"> • Handle cleaning and sanitation agents safely • Advise affected work areas of cleaning schedule and progress • Clean/sanitize equipment as required.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Cleaning schedule and related procedures, including OHS advice • Cleaning procedures including safe work procedures • Personal protective clothing and equipment • Material Safety Data Sheets as required • Cleaners, sanitisers and related equipment • Equipment to be cleaned • Waste collection and treatment/disposal procedures • Advice on environmental management issues relevant to work responsibilities • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs), • cleaning schedules and • Material Safety Data Sheets (MSDS).
Cleaning agents	Cleaning agents include: <ul style="list-style-type: none"> • cleaning and sanitizing chemicals.
Equipment	Equipment used to clean and sanitise depends on specific requirements and would normally include: <ul style="list-style-type: none"> • brooms, cloths, scrapers, brushes, mops, spray packs and hoses.
Teamwork	Work may require the ability to work within a team environment.
Services	Services depend on specific requirements. Examples include: <ul style="list-style-type: none"> • high-pressure water or steam.
Housekeeping standards	Housekeeping standards may be defined in housekeeping audit criteria.

Unit Sector(s)

Sugar Milling.

FDFSUG201A Lay sleepers for cane rail systems

Modification History

New Unit based on *SUGSLSP2A Lay sleepers*.

Unit Descriptor

This unit describes the outcomes required to lay sleepers. It can apply to both construction of new track and repair of existing track.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare work	<ul style="list-style-type: none">1.1 The location and scope of work are identified1.2 Materials required to complete the work are confirmed and available1.3 Equipment status is confirmed and pre-operational checks are carried out1.4 Personal protective equipment is selected, correctly fitted and used1.5 Safety procedures are followed to confirm that work is clearly signed and relevant authorities are advised that work is in progress1.6 Site is inspected prior to commencing work to identify and remove potential hazards
2 Lay sleepers	<ul style="list-style-type: none">2.1 Sleepers are positioned to meet track laying specifications2.2 Sleepers are spaced and aligned as required for track construction
3 Complete work	<ul style="list-style-type: none">3.1 The construction area is cleared of debris3.2 Unused materials are stored as required3.3 Tools, plant and equipment is cleaned and stored as required3.4 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- interpret workplace information such as drawings and related instructions to identify the project requirements
- estimate material requirements for a given project
- assess operational status of equipment and carry out pre-operational checks
- position and align sleepers to meet specifications
- identify faulty operation of equipment
- identify unacceptable work outcomes
- take corrective action in response to abnormal or unacceptable performance
- use appropriate communication methods and equipment
- report and/or record corrective action as required
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- site operating procedures and practices
- understanding of the steps involved in laying/repairing sleepers
- functions and basic operating principles of equipment used
- the impact of the positioning and alignment of sleepers on related track laying operations
- the quality requirements of sleepers
- common problems related to laying sleepers and corrective action required
- traffic control signage, communication and procedures
- safe work procedures including awareness of health and safety hazards related to track laying and associated control measures including safe manual handling procedures
- purpose and limitations of protective clothing and equipment
- environmental issues and controls
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • interpret workplace information • estimate material requirements • assess operational status of equipment and carry out pre-operational checks • position and align sleepers to meet specifications • identify faulty operation of equipment • identify unacceptable work outcomes • take corrective action in response to abnormal or unacceptable performance.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Site and related project information • Relevant codes of practice and industry standards • Materials handling equipment and relevant hand and power tools • Operating procedures and related advice on equipment operation • Sleepers and related materials • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none"> • SUG217A Lay rails; and/or • SUG218A Lay skeleton track • AHCMOM207A Conduct front end loader operations.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • manufacturer's specifications.
Cane transport network	Cane transport network features and their characteristics may include: <ul style="list-style-type: none"> • main and branch lines • yards • sidings • loops • dump points and pads • and road transport delivery points.
Equipment and materials	Equipment and materials may include: <ul style="list-style-type: none"> • materials handling equipment such as front end loaders and cranes • hand tools • pneumatic tools • base plates • clips • dog spikes • anchors • screws • insulating biscuits and • camber plates.
Information systems	Information systems may be print or screen based.
Confirming equipment status	Confirming equipment status involves conducting relevant

	pre-start checks, confirming that all safety guards and equipment are ready and safe to operate.
Teamwork	Work may require the ability to work within a team environment.
Communication methods	Communication methods may include use of two-way radios.

Unit Sector(s)

Sugar Milling

FDFSUG202A Lay rails for cane rail systems

Modification History

New Unit based on *SUGSLRT2A Lay rails*.

Unit Descriptor

This unit describes the outcomes required to lay rails. It can apply to both construction of new track and repair of existing track. Track has been pre-welded to meet track design and construction specifications.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare work	<ul style="list-style-type: none">1.1 The location and scope of work are identified1.2 Materials required to complete the work are confirmed and available1.3 Equipment status is confirmed and pre-operational checks are carried out1.4 Personal protective equipment is selected, correctly fitted and used1.5 Safety procedures are followed to confirm that work is clearly signed and relevant authorities are advised that work is in progress1.6 Site is inspected prior to commencing work to identify and remove potential hazards
2 Lay rails	<ul style="list-style-type: none">2.1 Rail lengths are positioned and fixed to meet construction specifications
3 Complete work	<ul style="list-style-type: none">3.1 Unused materials are stored as required3.2 Tools, plant and equipment is cleaned and stored as required3.3 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret workplace information such as drawings and related instructions to identify the project requirements
- estimate material requirements for a given project
- assess operational status of equipment and carry out pre-operational checks
- confirm that rail lengths meet design and construction specifications
- position rails to meet specification including positioning and fixing base plates where used and positioning and fixing rail lengths
- monitor track laying including confirming that the following meet construction specifications:
 - alignment of the first rail
 - joints between rail lengths
 - spike holes are bored to required pattern
 - clips/dog spikes are fitted and fixed to secure rail to each sleeper
 - rail anchors are positioned firmly against sleepers to prevent slippage
 - second rail is positioned to the correct gauge prior to fixing
 - rails are fixed in position
- circuit plans are maintained in jointing processes to switching/signalling requirements
- identify faulty operation of equipment
- identify unacceptable work outcomes
- take corrective action in response to abnormal or unacceptable performance
- use appropriate communication methods and equipment
- report and/or record corrective action as required
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- site operating procedures and practices
- understanding of the steps involved in laying/repairing track
- functions and basic operating principles of track laying equipment
- the impact of the positioning and alignment of rails on related track laying operations
- the quality requirements of rails
- common problems related to laying rails and corrective action required
- traffic control signage, communication and procedures
- safe work procedures including awareness of health and safety hazards related to track laying

and associated control measures including safe manual handling procedures

- purpose and limitations of protective clothing and equipment
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • interpret workplace information • estimate material requirements for a given project • confirm that rail lengths meet design and construction specifications • position rails to meet specification • take corrective action in response to abnormal or unacceptable performance • use appropriate communication methods and equipment • report and/or record corrective action as required.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Site and related project information • Relevant codes of practice and industry standards • Materials handling equipment and relevant hand and power tools • Operating procedures and related advice on equipment operation • Rails - pre-welded to meet track design and construction specifications and related materials • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none"> • SUG219A Lay sleepers • AHCMOM207A Conduct front end loader operations.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency</p>

	should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Cane transport network	<p>Cane transport network features and their characteristics may include:</p> <ul style="list-style-type: none"> • main and branch lines • yards • sidings • loops • dump points and pads.
Information systems	Information systems may be print or screen based
Equipment and materials	<p>Equipment and materials may include:</p> <ul style="list-style-type: none"> • hand tools • pneumatic tools • base plates • fish plates • clips • dog spikes • anchors • screws • insulating biscuits and • camber plates.
Teamwork	Work may require the ability to work within a team environment
Communication methods	<p>Communication methods may include:</p> <ul style="list-style-type: none"> • use of two-way radios.

Unit Sector(s)

Sugar Milling

FDFSUG203A Lay skeleton track for cane rail system

Modification History

New Unit based on *SUGSLST2A Lay skeleton track*.

Unit Descriptor

This unit describes the outcomes required to lay pre-fabricated rails.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare work	<ul style="list-style-type: none">1.1 The location and scope of work are identified1.2 Materials required to complete the work are confirmed and available1.3 Equipment status is confirmed and pre-operational checks are carried out1.4 Personal protective equipment is selected, correctly fitted and used1.5 Safety procedures are followed to confirm that work is clearly signed and relevant authorities are advised that work is in progress1.6 Site is inspected prior to commencing work to identify and remove potential hazards
2 Lay skeleton tracks	<ul style="list-style-type: none">2.1 Skeleton track section is placed on base foundation and aligned to meet construction specifications
3 Complete work	<ul style="list-style-type: none">3.1 The construction area is cleared of debris3.2 Unused materials are stored as required3.3 Tools, plant and equipment is cleaned and stored as required3.4 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret workplace information such as drawings and related instructions to identify the project requirements
- confirm that pre-fabricated skeleton track is available to meet the requirements of a given project
- assess operational status of equipment and carry out pre-operational checks
- lay skeleton track to meet design and construction specifications including checking track position and alignment and fixing track to sleepers
- identify faulty operation of equipment
- identify unacceptable work outcomes
- take corrective action in response to abnormal or unacceptable performance
- use appropriate communication methods and equipment
- report and/or record corrective action as required
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- site operating procedures and practices
- understanding of the steps involved in laying skeleton track
- functions and basic operating principles of equipment used
- the importance of rail positioning and alignment on track quality and performance
- the quality requirements of skeleton tracks
- common problems related to laying skeleton tracks and corrective action required
- traffic control signage, communication and procedures
- safe work procedures including awareness of health and safety hazards related to track laying and associated control measures including safe manual handling procedures
- purpose and limitations of protective clothing and equipment
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • interpret workplace information • assess operational status of equipment and carry out pre-operational checks • lay skeleton track to meet design and construction specifications • identify faulty operation of equipment • identify unacceptable work outcomes • take corrective action in response to abnormal or unacceptable performance.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Site and related project information • Relevant codes of practice and industry standards • Materials handling equipment and relevant hand and power tools • Operating procedures and related advice on equipment operation • Skeleton tracks - pre-fabricated to meet track design and construction specifications and related materials • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none"> • SUG219A Lay sleepers • AHCMOM207A Conduct front end loader operations.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • manufacturer's specifications.
Cane transport network	Cane transport network features and their characteristics may include: <ul style="list-style-type: none"> • main and branch lines • yards • sidings • loops • dump points and pads.
Equipment and materials	Equipment and materials may include: <ul style="list-style-type: none"> • materials handling equipment such as front end loaders and cranes • hand tools • pneumatic tools • base plates • fish plates • clips • dog spikes • anchors • screws • insulating biscuits and • camber plates.
Nature of track	Track has been pre-fabricated.
Equipment status	Confirming equipment status involves:

	<ul style="list-style-type: none">• conducting relevant pre-start checks• confirming that all safety guards are in place• determining equipment is ready and safe to operate.
Teamwork	Work may require the ability to work within a team environment.
Communication methods	Communication methods may include: <ul style="list-style-type: none">• use of two-way radios.

Unit Sector(s)

Sugar Milling.

FDFSUG204A Operate tamping equipment

Modification History

New Unit based on *SUGTOTE2A Operate tamping equipment*.

Unit Descriptor

This unit describes the outcomes required to operate tamping equipment used to lift and pack track. It can apply to both construction of new track and repair of existing track.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare work	1.1 The location and scope of work are identified 1.2 Materials required to complete the work are confirmed and available 1.3 Equipment status is confirmed and pre-operational checks are carried out 1.4 Personal protective equipment is selected, correctly fitted and used 1.5 Safety procedures are followed to confirm that work is clearly signed and relevant authorities are advised that work is in progress 1.6 Site is inspected prior to commencing work to identify and remove potential hazards
2 Operate tamping equipment	2.1 Ballast hopper is operated to supply an even flow of ballast to the specified thickness 2.2 Tamper equipment is operated to lift, line track and pack ballast to specification 2.3 Track is dressed by final ballast spread and trimmed to meet the specified profile 2.4 Track is inspected to confirm that design and construction specifications are met
3 Analyse and respond to abnormal performance	3.1 Operating data and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Hazards are identified and reported as required according to workplace reporting procedure 3.3 Corrective action is taken in accordance with workplace in response to hazards and abnormal or unacceptable equipment performance 3.4 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4. Complete work	4.1 The construction area is cleared of debris 4.2 Unused materials are stored as required 4.3 Equipment is shut down and parked according to workplace requirements 4.4 Tools, plant and equipment is cleaned and stored as required 4.5 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret workplace information such as drawings and related instructions to identify the project requirements
- estimate material requirements for a given project
- assess operational status of tamper and carry out pre-operational checks
- operate tamper to apply and compact ballast and lift and align track to meet design and construction specifications
- monitor track laying including confirming that the following meet construction specifications:
 - spread and depth of ballast
 - compaction
 - track line
 - final dressing application and trim
- identify faults in operation of equipment
- take corrective action in response to abnormal or unacceptable performance
- use appropriate communication methods and equipment
- report and/or record corrective action as required
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- understanding of the steps involved in constructing/repairing track
- functions and basic operating principles of tamper equipment including the layout and purpose of major air, hydraulic, mechanical and electrical systems as relevant to equipment
- operational checks and operating capacity of equipment
- track construction specifications
- the impact of tamper operation on related track laying operations
- factors that can affect the tamper operation
- common problems related to tamping and corrective action required
- traffic control signage, communication and procedures
- safe work procedures including awareness of health and safety hazards related to track laying and associated control measures including safe manual handling procedures
- purpose and limitations of protective clothing and equipment
- environmental issues and controls
- requirements to liaise/advise related work areas

- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • Assess operational status of tamper and carry out pre-operational checks • Operate tamper to apply and compact ballast and lift and align track to meet design and construction specifications • Monitor track laying. • Identify faults in operation of equipment • Take corrective action in response to abnormal or unacceptable performance • Use appropriate communication methods and equipment.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Site and related project information • Relevant codes of practice and industry standards • Tamper and related equipment • Materials handling equipment and relevant hand and power tools • Operating procedures and related advice on equipment operation • Ballast • Track work • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>A tamper operator may also require competence in:</p> <ul style="list-style-type: none"> • TLIC2041A Operate on-track self-propelled equipment • FDFOP2030A Operate a process control interface <i>where the tamper is computer controlled.</i>

Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------------------------	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • drawings and • plans.
Railway network features	Cane railway network features and their characteristics may include <ul style="list-style-type: none"> • main and branch lines • yards • sidings • loops • dump points and pads • road transport delivery points where relevant.
Information systems	Information systems may be print or screen based.
Equipment	Equipment may include tamper and related attachments.
Equipment status	Confirming equipment status involves <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met, all safety guards are in place • equipment is ready and safe to operate.
Teamwork	Work may require the ability to work within a team environment.
Communication methods	Communication methods may include use of two-way radios.

Unit Sector(s)

Sugar Milling.

FDFSUG205A Construct turnouts

Modification History

New Unit based on *SUGSCT2A Construct turnouts*.

Unit Descriptor

This unit describes the outcomes required to construct turnouts. It can apply to both construction of new turnouts and repair of existing turnouts.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFSUG217A Lay rails for cane rail systems

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and prepare work	<p>1.1 The location and scope of work are identified</p> <p>1.2 Materials required to complete the work are confirmed and available</p> <p>1.3 Equipment status is confirmed and pre-operational checks are carried out</p> <p>1.4 Personal protective equipment is selected, correctly fitted and used</p> <p>1.5 Safety procedures are followed to confirm that work is clearly signed and relevant authorities are advised that work is in progress</p> <p>1.6 Site is inspected prior to commencing work to identify and remove potential hazards</p>
2 Construct turnouts	<p>2.1 Sleepers for turnouts are placed in required position for track junctions</p> <p>2.2 Base plates for switching are fixed to sleepers in specified locations</p> <p>2.3 Switch rails are positioned and fitted to specification</p> <p>2.4 Switching gear is installed to specification</p>
3 Complete work	<p>3.1 The construction area is cleared of debris</p> <p>3.2 Unused materials are stored as required</p> <p>3.3 Tools, plant and equipment is cleaned and stored as required</p> <p>3.4 Workplace information is recorded according to workplace recording requirements</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- interpret workplace information such as drawings and related instructions to identify the project requirements
- estimate materials required for a given project
- assess operational status of equipment and carry out pre-operational checks
- construct turnouts to meet design and construction specifications
- confirm that switching gear is operational
- identify faulty operation of equipment
- identify unacceptable work outcomes
- take corrective action in response to abnormal or unacceptable performance
- use appropriate communication methods and equipment
- report and/or record corrective action as required
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- overview of cane transport system
- track system layout and characteristics of each section
- the steps involved in laying/repairing track
- functions and basic operating principles of equipment
- the impact of turnout construction on related track laying operations
- factors that can affect turnout construction
- traffic control signage, communication and procedures
- safe work procedures including awareness of health and safety hazards related to track laying and associated control measures including safe manual handling procedures
- purpose and limitations of protective clothing and equipment
- environmental issues and controls
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • interpret workplace information • estimate materials • assess operational status of equipment • construct turnouts to meet design and construction specifications • confirm that switching gear is operational • identify faulty operation of equipment • take corrective action in response to abnormal or unacceptable performance.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Site and related project information • Relevant codes of practice and industry standards • Turnout construction equipment • Materials handling equipment and relevant hand and power tools • Operating procedures and related advice on equipment operation • Track work • Switching gear • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Cane transport network	Cane transport network features and their characteristics may include: <ul style="list-style-type: none"> • main and branch lines • yards • sidings • loops • dump points and pads.
Information systems	Information systems may be print or screen based
Equipment and materials	Equipment and materials may include: <ul style="list-style-type: none"> • track laying equipment and related attachments • hand tools • pneumatic tools • base plates • fish plates • clips • dog spikes • anchors • screws • insulating biscuits • camber plates.
Confirming equipment status	Confirming equipment status involves conducting relevant pre-start checks, confirming that all safety

	guards and equipment are ready and safe to operate.
Teamwork	Work may require the ability to work within a team environment.
Communication methods	Communication methods may include: <ul style="list-style-type: none">• use of two-way radios.

Unit Sector(s)

Sugar Milling

FDFSUG206A Drive a cane locomotive

Modification History

New Unit based on *SUGTDCL2A Drive a cane locomotive*.

Unit Descriptor

This unit describes the outcomes required to prepare, start-up, operate and shut down a cane locomotive. Locos may or may not be fitted with break vans and may be single or double-headed. For locomotives in a master-slave configuration see *FDFSUG309A Drive a master-slave locomotive*.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for locomotive operation	1.1 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures 1.2 Workplace records are checked to confirm operational status 1.3 Locomotive and related equipment is inspected to confirm status and pre-start checks and warm up procedures are conducted 1.4 Pre-departure checks are conducted to confirm locomotive and related equipment meets operating standard 1.5 Appropriate end of train tail flags and brake vans are fitted as required
2 Start, operate and monitor locomotive	2.1 Authority to move locomotive is obtained 2.2 Locomotive is operated in accordance workplace procedures and manufacturer's specifications to meet transport requirements 2.3 Locomotive, rake and related equipment are monitored to maintain optimum operating condition and identify faults or defects 2.4 Operation is monitored against schedule and communicated as required 2.5 Housekeeping standards are maintained
3 Analyse and respond to abnormal conditions and performance	3.1 Hazardous situations and conditions are recognized and appropriate action taken to maintain safety of personnel and equipment 3.2 Faults are assessed to determine risk of injury to personnel or damage to equipment 3.3 Corrective action is taken in accordance with workplace procedures in response to Hazards, abnormal or unacceptable equipment condition or performance 3.4 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Prepare for shift handover	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Changeover drivers are aware of locomotive and related equipment status, track conditions and incidents at completion of handover
5 Shut down locomotive	5.1 Locomotive is parked in the appropriate location 5.2 Locomotive is shut down and secured in accordance with workplace procedures
6 Complete work	6.1 Workplace information is recorded according to workplace

ELEMENT**PERFORMANCE CRITERIA**

- recording requirements
- 6.2 Tools, plant and equipment are cleaned and stored/parked as required
- 6.3 Defects and faults are identified and reported according to workplace procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information such as running slips to identify driving requirements
- select, fit and use personal protective clothing and/or equipment
- prepare the locomotive and related equipment such as brake vans for operation including conducting visual inspection of equipment, pre-start checks and warm up procedures and pre-departure checks
- operate the locomotive and associated equipment such as brake vans according to work procedure to achieve work requirements including demonstrating manual and automatic control procedures
- monitor locomotive and equipment condition including monitoring operating status of the locomotive and related equipment and monitoring condition of bins in the rake
- take corrective action in response to abnormal or unacceptable quality of bins, rolling stock or equipment performance
- assess equipment faults to determine appropriate corrective action
- follow procedures to drop off and tag damaged bins including identifying an appropriate location, shunting bins and notifying appropriate personnel
- follow procedure to notify a locomotive breakdown
- communicate with the traffic officer and rail personnel as required
- use appropriate communication methods and equipment
- maintain workplace records
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to driving a locomotive and associated control measures
- purpose and limitations of protective clothing and equipment
- functions and basic operating principles of a locomotive and related equipment such as brake vans including the layout and purpose of the principal mechanical, pneumatic and electrical systems and of all equipment components
- function of all instruments and controls
- safe operating capacities of equipment
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- cane rail system layout to identify the location of points, signals and crossings including crossover of non-company rail lines

- options for responding to unplanned events such as derailments, breakdowns, accidents or track damage including an understanding of the impact of different options on efficient performance and safety issues when parking/dropping off damaged bins or locomotives
- safe operating conditions and speeds including awareness of typical conditions and situations that are hazardous and appropriate preventative action
- typical faults to be able to assess severity and risk in order to determine appropriate corrective action
- acceptable bin and rake condition
- communication procedures, methods and equipment including an understanding of warning devices and signals
- meaning of hand and audible signals, including use of lights
- procedures for responding to emergency situations including use of two-way radio system to report emergencies
- environmental issues and controls
- requirements to liaise/advise related work areas and personnel
- housekeeping standards
- reporting and recording systems and responsibilities

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare the locomotive and related equipment such as brake vans for operation • operate the locomotive and associated equipment such as brake vans • assess equipment faults to determine appropriate corrective action • communicate with the traffic officer and rail personnel • use appropriate communication methods and equipment • maintain workplace records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Locomotive and related equipment such as brake vans • Cane railway system • Relevant services and equipment required to carry out inspections, checks and monitoring • Workplace information including running slips and daily schedule, to advise of driving requirements • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of</p>

	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
<p>Hazard</p>	<p>Typical hazards include working with moving machinery, manual handling and working in exposed conditions.</p>
<p>Workplace documentation</p>	<p>Documentation and recording requirements may include:</p> <ul style="list-style-type: none"> • marshalling strategy • documentation relating to the traffic schedule such as run slips, loco running sheets and log books • tags to identify damaged bins • maintenance request forms.
<p>Visual inspection and pre-departure checks</p>	<p>Visual inspection may include checking:</p> <ul style="list-style-type: none"> • wheels and braking equipment, hoses and fittings for signs of wear or damage • fuel, oil, water and coolant levels • emergency and safety equipment • condition of the rake <p>Pre-departure checks may include checking:</p> <ul style="list-style-type: none"> • lubrication system • water and oil leaks • brake testing • communications equipment • traction systems • battery charging

	<ul style="list-style-type: none"> • sand boxes • gear changes.
Cane transport network	<p>Cane transport network features and their characteristics may include:</p> <ul style="list-style-type: none"> • main and branch lines • yards • sidings • loops • dump points and pads.
Information systems	Information systems may be print or screen based.
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • control systems • braking systems • manual and remote control systems • communication systems.
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • determining equipment is ready and safe to operate.
Teamwork	Work may require the ability to work within a team environment.
Communication methods	<p>Communication methods include:</p> <ul style="list-style-type: none"> • use of two-way radios used in accordance with workplace requirements and state authority protocols • hand and audible signalling.

Unit Sector(s)

Sugar Milling.

FDFSUG207A Conduct cane weighbridge operations

Modification History

New Unit based on *SUGTCW2A Conduct cane weighbridge operations*.

Unit Descriptor

This unit describes the outcomes required to operate a weighbridge to weigh and record incoming cane deliveries.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Set up weighbridge operations	1.1 Weighbridge systems, including equipment, computer and recording arrangements are checked for operational status 1.2 Tests to confirm accuracy of weighbridge operations and related functions are conducted in accordance with enterprise procedures, manufacturer's instructions and relevant legislation 1.3 Accurate reporting of the results of the inspection and testing is kept in accordance with statutory requirements, enterprise policy and industry guidelines 1.4 Faults/discrepancies in weighbridge operation and Hazards are identified and action undertaken in accordance with enterprise procedures
2 Weigh loaded vehicles/bins	2.1 Bins exceeding weight limit are rejected 2.2 Weight of loaded bins\vehicles is registered against bin identification 2.3 Net weight of bins\vehicles is calculated 2.4 Bins\vehicles and cane type are recorded according to workplace recording requirements 2.5 The workplace meets housekeeping standards
3 Prepare for shift changeover	3.1 Weighbridge systems, including equipment, computer and recording arrangements are secured or made ready for the next shift 3.2 Records of operations are maintained and filed in accordance with enterprise procedures and statutory requirements 3.3 Shift changeover is carried out according to workplace procedure 3.4 Incoming weighbridge operators are aware of weighbridge and related equipment status procedures and manufacturer's recommendations

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- confirm status of weighbridge and related equipment at start up
- select, fit and use personal protective clothing and/or equipment
- demonstrate manual and automatic modes of operation as appropriate to workplace equipment
- demonstrate load weighing procedure including confirming accuracy of weighbridge
- monitor weighbridge operation including:
 - confirming correct bins are tipped
 - recording bin weights
 - checking the zero of the bridge or within tolerance range
 - checking bin contents and fill height
 - using bin delivery pushers and spotters as appropriate for equipment
 - identifying faults or non-conformance in operation
- take corrective action in response to abnormal or unacceptable performance
- use appropriate communication methods and equipment
- liaise with pushers and pin-pullers as required
- report and/or record corrective action as required
- complete weighbridge operation records
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities, legislation relating to cane payment as it affects requirements weighing and sampling and weights and measures legislation
- functions and basic operating principles of weighbridge and related equipment components
- cut to crush sequence
- the relationship between the weighbridge and downstream operations
- purpose and procedures for testing accuracy of weighbridge using test weights
- safe work procedures including awareness of health and safety hazards related to weighbridge operation and associated control measures
- purpose and limitations of protective clothing and equipment
- procedures for responding to emergency situations
- method to calculate net bin weight
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm status of weighbridge and related equipment at start up • demonstrate load weighing procedure • liaise with pushers and pin-pullers as required • complete weighbridge operation records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Weighbridge and related equipment • Relevant codes of practice and industry standards • Operating procedures and related advice on equipment operation • Loaded cane bins • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. Where the weighbridge operator conducts yard control and/or tipping operations, the following related units are to be co-assessed with this unit.</p> <ul style="list-style-type: none"> • SUG222A Operate a tipping station • SUG101A Move cane bins in a marshalling yard.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Information systems	Information systems may be print or screen based.
Weighbridge calibration	Calibration of weighbridges is determined using test weights.
Teamwork	Work may require the ability to work within a team environment.
Communication methods	Communication methods may include use of two-way radios.

Unit Sector(s)

Sugar Milling.

FDFSUG208A Operate a tipping station

Modification History

New Unit based on *SUGTOTS2A Operate a tipping station*.

Unit Descriptor

This unit describes the outcomes required to unload cane bins into a sugar mill feeding station.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the tipping station for operation	1.1 Pre-operational checks are conducted 1.2 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Start and monitor tipping	2.1 Bin contents are visually inspected and obvious signs of contamination are reported as required according to workplace reporting procedure 2.2 Cane is tipped according to workplace procedure to maintain supply of cane to the mill 2.3 Plant is operated within limits of manufacturer's specifications to meet workplace requirements 2.4 Equipment is monitored to confirm operating condition 2.5 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 Plant operating conditions are monitored to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace in response to hazards and abnormal plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Prepare for shift changeover	4.1 Workplace information is recorded according to workplace recording requirements 4.2 Shift changeover is carried out according to workplace procedure 4.3 Incoming yard control operators are aware of yard and related equipment status
5 Shutdown the tipping station	5.1 The tipping station is shut down according to workplace procedures and manufacturer's recommendations 5.2 Waste is collected, treated and disposed or recycled according to company procedures 5.3 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- confirm status of tipping process at start up
- select, fit and use personal protective clothing and/or equipment
- demonstrate manual and automatic modes of operation as appropriate to workplace equipment
- monitor tipping process to maintain a full carrier including monitoring:
 - rate of tipping to maintain full carrier
 - bin and equipment condition
- identify faulty bins and/or equipment and arrange transfer for repair
- take corrective action in response to abnormal or unacceptable performance
- use appropriate communication methods and equipment including 2-way radios
- complete tipping operation records and hand over tipping process
- maintain work area to meet housekeeping standards including clearing cane spillages

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and industry codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to tipping operation and associated control measures
- functions and basic operating principles of tipping process and related control system and equipment components
- the relationship between the tipping process and mill operation
- consequences of tipping contaminated cane
- typical faults in cane bins which affect haulage and tipping operations
- acceptable bin and rake condition and procedure for tagging and reporting bins requiring repair
- procedures for responding to emergency situations
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm status of tipping process at start up • monitor tipping process to maintain a full carrier • identify faulty bins and/or equipment and arrange transfer for repair • take corrective action in response to abnormal or unacceptable performance • use appropriate communication methods and equipment • complete tipping operation records and hand over tipping process • maintain work area to meet housekeeping standards.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Tipping process, milling train and related equipment • Relevant codes of practice and industry standards • Operating procedures and related advice on equipment operation • Loaded cane bins • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Where the tipping operator conducts weighbridge operations and/or yard control, the following related units are to be co-assessed with this unit.</p> <ul style="list-style-type: none"> • SUG214A Conduct rail weighbridge operations • SUG101A Move cane bins in a marshalling yard.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where</p>

	possible, over a number of assessment activities.
--	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Equipment status	Confirming equipment status involves <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met, all safety guards are in place • equipment is operational.
Equipment	Equipment may include <ul style="list-style-type: none"> • 2-way communication system • process control interface and related control system, • tipping unit or tippler • pushers • points • indexers.
Typical hazards	Typical hazards include working with moving machinery - pinch points.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG209A Operate an extraction station

Modification History

New Unit based on *SUGPOES2A Operate an extraction station*.

Unit Descriptor

This unit describes the outcomes required to prepare and operate an extraction station. In order to demonstrate competence in this unit the operator must also be competent to operate turbines and reciprocating engines where required.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the extraction process for operation	1.1 Cane is confirmed and available to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The extraction process is set to meet production requirements
2 Operate and monitor the extraction process	2.1 The extraction process is started up and operated according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Bagasse meets specifications 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification bagasse, process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure 2.6 The workplace meets housekeeping standards
3 Handover the extraction station	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 Extraction station operators are aware of system and related equipment status at completion of handover
4 Shut down the extraction system	4.1 The appropriate shut down procedure is identified 4.2 The extraction system is shut down according to workplace procedures 4.3 The extraction system is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm equipment status and condition
- liaise with other work areas - specifically boilers and evaporator station
- demonstrate start up procedures after an extended stop and after a short stop
- start up and operate in both automatic and manual modes
- monitor the process and equipment operation to maintain the process within the required parameters including monitoring:
 - temperatures
 - steam pressure
 - throughput
 - chute height
 - torques/mill loads
 - added water flows
 - feeding characteristics of cane
 - equipment condition including lubrication systems and vibration levels
- monitor supply and flow of cane to the process and bagasse and juice from the process
- take corrective action in response to out-of-specification results
- report and/or record corrective action as required
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- demonstrate an operational shut down procedure
- prepare equipment for cleaning/maintenance
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose and basic principles of extraction including shredder operation, mills and diffusers as required in the workplace
- the circuit flow of this process and relationship between extraction, boilers and evaporation
- effect on extraction of:
 - cane quality
 - added water

- mill operation
- consequences of poor lubrication
- the role of cooling water for equipment operation
- quality characteristics of bagasse and their effect on boiler operation
- equipment purpose and basic operating principles of extraction equipment
- services used
- operating requirements and parameters
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- hazards and controls
- purpose and limitations of protective clothing and equipment
- lock out and tag out procedures
- requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
- procedures and responsibility for reporting problems
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • Confirm equipment status and condition • Demonstrate start up procedures • Start up and operate in both automatic and manual modes • Monitor the process and equipment operation • Monitor supply and flow of cane to the process and bagasse and juice from the process • Take corrective action in response to out-of-specification results • Report and/or record corrective action • Demonstrate shift handover procedure • Shut down equipment in response to an emergency situation • Demonstrate an operational shut down procedure.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Operating procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Product and process specifications and operating parameters • Extraction station equipment • Materials and services as required • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems, requirements and procedures <p>They may also require access to:</p> <ul style="list-style-type: none"> • Cleaning procedures, sampling schedule and

	procedures and maintenance procedures and tools depending on the work requirements.
Method of assessment	Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include: SUG202A Collect and prepare samples SUG213A Perform standard tests on a cane sample FDFOP2030A Operate a process control interface.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • manufacturer's specifications.
<p>Extraction equipment</p>	<p>Extraction equipment may include:</p> <ul style="list-style-type: none"> • shredder • cane carrier • mills • diffuser • juice pumps • juice screen • lubrication systems • cooling water system • maceration system • steam turbines • hydraulic drives.
<p>Equipment status</p>	<p>Confirming equipment status involves</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational.
<p>Services</p>	<p>Services may include:</p> <ul style="list-style-type: none"> • power • steam • water

	<ul style="list-style-type: none">• compressed and instrumentation air.
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG210A Operate a juice clarification process

Modification History

New Unit based on *SUGPJCP2A Operate a juice clarification process*.

Unit Descriptor

This unit describes the outcomes required to operate a juice clarification process from the juice tanks through to the clarifiers.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the clarification process for operation	1.1 Raw juice is and available to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The clarification process is set to meet production requirements
2 Operate and monitor the clarification process	2.1 The clarification process is started up and operated according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Clarified product meets specifications 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure 2.6 The workplace meets housekeeping standards 2.7 Workplace information is recorded according to workplace recording requirements
3 Handover the clarification process	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 Clarification operators are aware of system and related equipment status at completion of handover
4 Shut down the clarification process	4.1 The appropriate shut down procedure is identified 4.2 The clarification system is shut down according to workplace procedures 4.3 The clarification system is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- prepare lime, flocculant and saccharate for addition
- liaise with other work areas
- confirm equipment status and condition
- set up and start up the process in both automatic and manual modes
- undertake visual inspections and conducting tests to monitor characteristics such as:
 - juice temperatures
 - steam pressure
 - condensate flow and quality
 - throughput
 - juice pH
 - ESJ turbidity
 - addition rates
 - raw juice quality
 - clarifier mud levels and quality
 - equipment condition
- monitor supply and flow of materials to and from the process
- take corrective action in response to out-of-specification results
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- demonstrate an operational shut down procedure
- prepare equipment for cleaning/maintenance
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose and basic principles of clarification including heating, liming, juice degasification and flocculant addition
- the circuit flow of this process and relationship to related processes including the consequences of poor clarification on downstream processes
- the effect of recycle streams on the clarification process
- the purpose and role of materials added

- effect of faulty preparation of materials
- quality characteristics of raw juice and of clarified product
- the impact of dextran on sugar quality
- the function of the incubation tank and starch removal
- the effect of addition rates on the process
- the effect of variation in process parameters
- conditions that can cause deterioration in juice
- significance and method of monitoring control points within the process
- equipment purpose and basic operating principles of juice clarification equipment
- operating requirements and parameters
- services used
- common causes of variation and corrective action required
- hazards and controls
- purpose and limitations of protective clothing and equipment
- lock out and tag out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare lime, flocculant and saccharate for addition • set up and start up the process in both automatic and manual modes • monitor the process and equipment operation • take corrective action in response to out-of-specification results • record workplace information • demonstrate shift handover procedure • shut down equipment in response to an emergency situation
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Operating procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Product and process specifications and operating parameters • Juice clarification equipment • Materials including raw juice to be clarified • Services as required • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems, requirements and procedures <p>They may also require</p> <ul style="list-style-type: none"> • Cleaning procedures, sampling schedule and procedures and maintenance procedures and tools depending on the work requirements.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role</p>

	<p>should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none">• SUG202A Collect and prepare samples• SUG213A Perform standard tests• FDFOP2030A Operate a process control interface
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • manufacturer's specifications.
<p>Clarification equipment</p>	<p>Clarification equipment may include:</p> <ul style="list-style-type: none"> • tanks • juice pumps • juice heaters • flash tank • lime storage and mixing plant • saccharate tank • flocculant addition system • clarifier.
<p>Equipment status</p>	<p>Confirming equipment status involves</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational. <p>It may also involve checking operation/calibration of measuring instrumentation.</p>
<p>Equipment operation and monitoring</p>	<p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>
<p>Services</p>	<p>Services may include:</p> <ul style="list-style-type: none"> • power

	<ul style="list-style-type: none"> • steam • water • compressed and instrumentation air.
Clarification materials	<p>Materials can include lime</p> <ul style="list-style-type: none"> • flocculants • enzymes • phosphoric acid • saccharate • preservatives.
Tests	Where tests are conducted as part of operation, typical requirements are for pH and thymol testing.
Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG211A Operate a mud filtration process

Modification History

New Unit based on *SUGPMFP2A Operate a mud filtration process*.

Unit Descriptor

This unit of competency covers the skills and knowledge required to operate the mud filtration process from the clarifiers to mud disposal.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the mud filtration process for operation	1.1 Mud is assessed and conditioned to meet filtration requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The mud filtration process is set to meet production requirements
2 Operate and monitor the mud filtration process	2.1 The mud filtration process is started and operated according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Mud meets specification for pol and moisture 2.4 Equipment is monitored to confirm operating conditions 2.5 Out-of-specification mud, process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure 2.6 The workplace meets housekeeping standards
3 Handover the mud filtration process	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 Mud filtration operators are aware of system and related equipment status at completion of handover
4 Shut down the mud filtration process	4.1 The appropriate shut down procedure is identified 4.2 The mud filtration system is shutdown according to workplace procedures 4.3 The mud filtration system is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported according to workplace reporting requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- draw mud from the clarifier and assess mud quality
- confirm equipment status and condition
- set up filters and start up the process
- assess requirement for mud conditioning and add materials as required
- monitor the process and equipment operation to maintain the process within the required parameters. This typically involves visual inspections and conducting tests to monitor characteristics such as:
 - throughput
 - clarifier mud levels and quality
 - filter speed and cake thickness
 - filtrate clarity and pH
 - mud pol and moisture
 - equipment condition including filter vacuum and scraper and screen condition
 - wash water flow and temperature
- take corrective action in response to out-of-specification results
- report and/or record corrective action as required
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- demonstrate an operational shut down procedure
- prepare equipment for cleaning/maintenance
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- the purpose and basic principles of mud filtration
- the purpose and role of materials added and their effect on filter operation
- the effect of recycle streams on the mud filtration process
- the effect of addition rates on the process
- the effect of variation in process parameters
- the effect of mud age on filter performance
- the circuit flow of this process and relationship to related processes including mud output, filter speed, water addition and cake permeability

- equipment purpose and basic operating principles of mud filtration equipment including vacuum pumps and condensers
- services used
- operating requirements and parameters
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- hazards and controls
- the purpose and limitations of protective clothing and equipment
- lock out and tag out procedures
- requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
- procedures and responsibility for reporting problems
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pre-start checks on machinery used for filtration • start, operate, monitor and adjust process equipment to achieve required quality outcomes • take corrective action in response to typical faults and inconsistencies • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • safely shut down equipment • apply food safety procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements, stock flow systems, production schedules, and batch/recipe instructions • information on equipment capacity and operating parameters • production schedule/batch instructions • filtration and related equipment and services • materials required for filtration • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • manufacturer's specifications.
<p>Mud filtration equipment</p>	<p>Mud filtration equipment may include:</p> <ul style="list-style-type: none"> • clarifier mud removal • mud tank/mud mixer • bagacillo system • filtrate receivers and pump • vacuum pumps • mud filter • mud conveying system and storage • filter wash water supply • lime, flocculant and filtrate recycle to mud system.
<p>Equipment status</p>	<p>Confirming equipment status involves</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that cleaning standards are met • all safety guards are in place • equipment is operational. <p>It may also involve checking operation/calibration of measuring instrumentation.</p>
<p>Equipment operation and monitoring</p>	<p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>
<p>Services</p>	<p>Services may include:</p>

	<ul style="list-style-type: none"> • power • water • compressed and instrumentation air.
Materials	Materials can include lime, flocculants, saccharate and preservatives
Tests	Where tests are conducted as part of operation, typical requirements are for pH and thymol testing.
Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG212A Chemically clean equipment

Modification History

New Unit based on *SUGPCCE2A Chemically clean equipment*.

Unit Descriptor

This unit describes the outcomes required to use chemical agents to clean in-line plant and equipment such as evaporators, pans, heaters and filters.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for cleaning	<ul style="list-style-type: none">1.1 Chemical stocks are available to meet cleaning and sanitation requirements1.2 Services are confirmed as available and ready for operation1.3 Equipment is checked to confirm readiness for use1.4 Equipment shutdown is planned and equipment is taken off line for cleaning1.5 The plant is set for the cleaning cycle
2 Operate and monitor the cleaning process	<ul style="list-style-type: none">2.1 The cleaning cycle is undertaken according to company procedures2.2 The cleaning process is monitored to confirm cleaning meets company requirements2.3 Cleaning data is recorded according to workplace recording requirements2.4 Out-of-specification process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure
3 Dispose of waste and return plant to operating condition	<ul style="list-style-type: none">3.1 Cleaning chemicals are flushed from plant and disposed of according to company procedures3.2 Plant is set up to meet operational requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information such as the cleaning schedule to identify cleaning requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- handle cleaning and sanitation agents safely including following correct handling and preparation procedures and use of appropriate protective clothing and equipment
- prepare cleaners and sanitisers as required
- pace production and/or liaise with related work areas to take equipment off-line with minimal disruption to production
- prepare equipment for cleaning including rendering equipment safe to clean, correctly positioning equipment such as valves, pipes, vents and taps, selecting appropriate cleaning cycle (CIP), removing waste and or dismantling equipment
- clean equipment according to cleaning process cycle and procedures including starting up and operating the CIP process in both automatic and manual modes
- monitor the process and equipment operation to maintain the cleaning process within the required parameters
- return plant to operating order
- take corrective action in response to out-of-specification results
- advise affected work areas of cleaning schedule and progress
- maintain and store chemicals and related equipment as required
- carry out relevant checks and inspections to confirm effectiveness of cleaning
- sort, collect, treat, recycle or dispose of waste
- record cleaning information
- maintain work area to meet housekeeping standards

Required knowledge includes

Knowledge of:

- purpose and basic principles of cleaning in place (in-line) including the use and functions of caustic and acid solutions and cleaning sequence and stages as required in the workplace
- terminology relating to the chemicals solutions used
- safe work procedures including appropriate signage of cleaning activities and safe handling and storage of cleaners and sanitisers used
- purpose and limitations of protective clothing and equipment
- cleaning and sanitation requirements for work area including different levels of cleaning requirements depending on the reason for cleaning
- methods used to render equipment safe to clean including lock-out, tag-out and isolation procedures

- equipment settings required for cleaning and for operating respectively
- basic operating principles of process control where relevant including the relationship between control panels and systems and the physical equipment
- inspection points for cleaning and sanitation
- consequences of contamination of process flows by cleaning solutions
- types of waste generated by both the production and the cleaning process and related collection, treatment and disposal requirements
- environmental consequences of incorrect waste disposal procedures
- requirements to liaise/advise related work areas
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • handle cleaning and sanitation agents safely • clean equipment according to cleaning process cycle and procedures • return plant to operating order • carry out relevant checks and inspections to confirm effectiveness of cleaning.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Cleaning procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Equipment to be cleaned and related cleaning system • Cleaning schedule or advice and related Standard Operating Procedures • Chemicals and/or automated chemical addition system • Services as required • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems, requirements and procedures. <p>They may also require access to:</p> <ul style="list-style-type: none"> • Sampling and testing schedules and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none"> • FDFOP2030A Operate a process control interface.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Equipment	Equipment cleaned may include <ul style="list-style-type: none"> • evaporators • pans • heaters • filters • chemical mixing and storage equipment • pumps and pipes.
Services	Services may include: <ul style="list-style-type: none"> • power • water • steam • compressed and instrumentation air.
Tests	Where tests are conducted as part of operation a typical requirement is measurement of pH and condensate quality
Process monitoring	Monitoring the process depends on the cleaning requirements. It may include monitoring: <ul style="list-style-type: none"> • condensate quality (evaporators, heaters and pans) • vacuum and brix (evaporators) • time • storage tank levels • chemical strength • cycle time • temperatures.

Control panels and systems	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG213A Operate a pans station

Modification History

New Unit based on *SUGPOPS2A Operate a pans station*.

Unit Descriptor

This unit describes the outcomes required to operate the panning process from the liquor and A/B molasses tanks to the high-grade fugal distributor and low grade pan receiver.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the pans station for operation	1.1 Liquor and molasses are available to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The pans station is set up to meet production requirements
2 Operate and monitor pans station	2.1 The pans station is started up and operated according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 C sugar and C molasses meet specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification process and equipment performance is identified, rectified and/or reported 2.6 The workplace meets housekeeping standards
3 Handover the pans station	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 Pans station operators are aware of system and related equipment status at completion of handover
4 Shut down the pans station	4.1 The appropriate shut down procedure is identified 4.2 The pans station is shut down according to workplace procedures 4.3 The pans station is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm equipment status and condition
- start up and operate in both automatic and manual modes
- undertake visual inspection and conduct tests to monitor characteristics such as:
 - stirrer load
 - pan vacuum
 - sugar crystal size and distribution
 - pan station product purities
 - pan station stock levels including receiver stocks
 - high grade fugal times including spin and wash times
 - steam pressure
 - boiling formula
 - pan circulation
 - supersaturation
 - equipment condition
- control station throughput and A B balance to meet factory throughput through pan scheduling
- prepare magma and grain for high/low grade seed production
- shut down and clean pans according to schedule or as indicated by equipment monitoring
- prepare slurry for seed production
- add process additives as required by pan performance
- take corrective action in response to out-of-specification results
- report and/or record corrective action as required
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose and basic principles of pans station operation including the basic principles of crystallisation and may relate to operation of batch and continuous pans as required in the workplace

- terminology relating to sugar and molasses quality
- sugar industry quality standards for each brand of sugar
- the circuit flow of this process and relationship to related processes
- factors that affect throughput and recovery including the relationship between sugar pol and throughput; the balance between A, B and C pans and the effect of cane quality and boiling formula
- factors that affect flow of massecuite through the system
- the effect of massecuite quality on fugal operation
- relationship between boiling point and pressure in the pans station
- equipment purpose and basic operating principles of pans station equipment including vacuum pumps and condensers
- operating requirements and parameters
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- shut down sequence including massecuite pumps and stock management
- OHS hazards and controls
- purpose and limitations of protective clothing and equipment
- lock out and tag out procedures
- procedures and responsibility for reporting problems
- requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm equipment status and condition • start up and operate in both automatic and manual modes • monitor the process and equipment operation • control station throughput and A B balance to meet factory throughput through pan scheduling • prepare magma and grain for high/low grade seed production • shut down and clean pans according to schedule or as indicated by equipment monitoring • prepare slurry for seed production • add process additives as required by pan performance.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Operating procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Product and process specifications and operating parameters • Pans station equipment • Materials including molasses and liquor, and services as required • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems, requirements and procedures. <p>They may also require</p> <ul style="list-style-type: none"> • cleaning procedures, sampling schedule and procedures and maintenance procedures and tools

	depending on the work requirements.
Method of assessment	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none">• SUG202A Collect and prepare samples• SUG213A Perform standard tests on cane samples• FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • manufacturer's specifications.
<p>Pans equipment</p>	<p>Pans equipment may include</p> <ul style="list-style-type: none"> • pans (batch and/or continuous) • molasses pipes • tanks and pumps • massecuite pump • water and steam system • receivers • vacuum pumps • remelt systems.
<p>Equipment status</p>	<p>Confirming equipment status involves</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational. <p>It may also involve checking operation/calibration of measuring instrumentation.</p>
<p>Equipment operation and monitoring</p>	<p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>
<p>Services</p>	<p>Services may include:</p> <ul style="list-style-type: none"> • power

	<ul style="list-style-type: none"> • steam • water • compressed and instrumentation air.
Tests	<p>Where tests are conducted as part of operation a typical requirement is observation by microscope and product density.</p> <p>Sugar industry quality standards are determined at state level.</p>
Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG214A Operate a low grade fugal station

Modification History

New Unit based on *SUGPLGF2A Operate a low grade fugal station*.

Unit Descriptor

This unit describes the outcomes required to operate the low grade fugal process from the re-heater to the magma pump and molasses cooler.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the low grade fugal station for operation	1.1 Masecuite is conditioned to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The low grade fugal station is set up to meet production requirements
2 Operate and monitor low grade fugal station	2.1 The low grade fugal station is started up and operated according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 C sugar and C molasses meet specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure 2.6 The workplace meets housekeeping standards
3 Handover the low grade fugal station	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 Low grade fugal station operators are aware of system and related equipment status at completion of handover
4 Shut down the low grade fugal station	4.1 The appropriate shut down procedure is identified 4.2 The low grade fugal station is shut down according to workplace procedures 4.3 The low grade fugal station is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm equipment status and condition
- follow start up procedure
- start up and operate in both automatic and manual modes
- monitor:
 - fugal load
 - magma and molasses quality
 - crystal formation in C molasses
 - massecuite feed temperatures
 - equipment condition including screen condition and vibration
 - magma and molasses purity
 - molasses temperature and brix
 - magma tank stock level and remelt rates
- control station throughput to meet factory throughput
- take corrective action in response to out-of-specification results
- shut down and clean fugals according to schedule or as indicated by equipment monitoring
- report and/or record corrective action as required
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- demonstrate an operational shut down procedure
- prepare equipment for cleaning/maintenance
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose and basic principles of low grade fugal operation including C molasses cooling and storage and operating efficiencies for low grade fugals
- terminology such as brix and purity
- the effect of C molasses dilution and temperature on C massecuite viscosity
- the effect of C massecuite conditioning on low grade fugal performance
- the circuit flow of this process and relationship to related processes
- factors that affect throughput and recovery including the relationship between crystalliser

throughput, magma stock and remelt rate

- equipment purpose and basic operating principles of low grade fugal equipment
- services used
- operating requirements and parameters
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- hazards and controls
- purpose and limitations of protective clothing and equipment
- lock out and tag out procedures
- requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
- procedures and responsibility for reporting problems
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify production requirements • follow start up procedure • start up and operate in both automatic and manual modes • monitor the process and equipment operation to maintain the process • control station throughput to meet factory throughput • take corrective action in response to out-of-specification results • shut down and clean fugals • report and/or record corrective action as required • shut down equipment in response to an emergency situation • demonstrate an operational shut down procedure • prepare equipment for cleaning/maintenance.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Operating procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Product and process specifications and operating parameters • Low grade fugal station equipment • Materials including massequite and services as required • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems, requirements and procedures.

	<p>They may also require</p> <ul style="list-style-type: none"> • Cleaning procedures, sampling schedule and procedures and maintenance procedures and tools depending on the work requirements.
Method of assessment	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none"> • SUG202A Collect and prepare samples • SUG213A Perform standard tests on a cane sample • FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • manufacturer's specifications.
<p>Fugal equipment</p>	<p>Low grade fugal equipment may include:</p> <ul style="list-style-type: none"> • low grade fugals • massecuite feed pump • distributor • fugal water and steam system • magma screw and pump • molasses pump and cooler • magma remelt system • molasses tank.
<p>Equipment status</p>	<p>Confirming equipment status involves</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational. <p>It may also involve checking operation/calibration of measuring instrumentation.</p>
<p>Services</p>	<p>Services may include:</p> <ul style="list-style-type: none"> • power • water • steam • compressed and instrumentation air.

Tests	Where tests are conducted as part of operation typical requirements are observation using a microscope and product density.
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG215A Operate a high grade fugal station

Modification History

New Unit based on *SUGPHGF2A Operate a high grade fugal station*.

Unit Descriptor

This unit describes the outcomes required to operate the high grade fugal process from the high-grade fugal distributor to the sugar bin and the A and B molasses storage tanks.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the high grade fugal station for operation	1.1 Masecuite is available to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The high grade fugal station is set up to meet production requirements
2 Operate and monitor high grade fugal station	2.1 The high grade fugal station is started up and operated according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Output meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure 2.6 The workplace meets housekeeping standards
3 Handover the high grade fugal station	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 High grade fugal station operators are aware of system and related equipment status at completion of handover
4 Shut down the high grade fugal station	4.1 The appropriate shut down procedure is identified 4.2 The high grade fugal station is shut down according to workplace procedures 4.3 The high grade fugal station is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm equipment status and condition
- follow start up procedure
- start up and operate in both automatic and manual modes
- undertake visual inspections and conduct tests to monitor characteristics such as:
 - fugal load
 - sugar and molasses quality
 - crystal in A B molasses
 - A B molasses purity
 - A B molasses density
 - molasses stock level
 - sugar temperature, pol and moisture
 - fugal speed
 - atmospheric conditions
 - cycle times including spin and wash times
 - wash water temperature
 - basket charge
 - dry air and sugar flows
 - sugar dust levels
 - equipment condition including drip gate operation
- control station throughput and A B balance to meet pan stage throughput
- take corrective action in response to out-of-specification results
- shut down and clean fugals according to schedule or as indicated by equipment monitoring
- control drier airflows to achieve target sugar temperature and moisture
- report and/or record corrective action as required
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- prepare equipment for cleaning/maintenance
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose and basic principles of high grade fugal station operation including sugar drying and operation of batch and continuous fugals as required in the workplace
- terminology relating to sugar and molasses quality
- sugar industry quality standards for each brand of sugar
- the circuit flow of this process and relationship to related processes
- factors that affect throughput and recovery such as the relationship between sugar pol and throughput and the balance between A and B fugals
- the effect of massecuite quality on fugal operation and the effect of variation in operating parameters on the fugal output
- equipment purpose and basic operating principles of high grade fugal equipment
- services used
- operating requirements and parameters
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- hazards and controls
- purpose and limitations of protective clothing and equipment
- lock out and tag out procedures
- shut down sequence including massecuite feed pumps and re-heaters
- requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
- procedures and responsibility for reporting problems
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify production requirements • follow start up procedure • start up and operate in both automatic and manual modes • monitor the process and equipment operation to maintain the process within the required parameters • control station throughput and A B balance to meet pan stage throughput • take corrective action in response to out-of-specification results • shut down and clean fugals according to schedule or as indicated by equipment monitoring • control drier airflows to achieve target sugar temperature and moisture • shut down equipment in response to an emergency situation
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Operating procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Product and process specifications and operating parameters • High grade fugal station equipment • Materials including massequite and services as required • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems,

	<p>requirements and procedures.</p> <p>They may also require access to:</p> <ul style="list-style-type: none"> • Cleaning procedures, sampling schedule and procedures and maintenance procedures and tools depending on the work requirements.
Method of assessment	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none"> • SUG202A Collect and prepare samples • SUG213A Perform standard tests on a cane sample • FDFOP2030A Operate a process control interface.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • manufacturer's specifications.
<p>Fugal equipment</p>	<p>High grade fugal equipment may include:</p> <ul style="list-style-type: none"> • high grade fugals (batch and/or continuous) • molasses pipes • tanks and pumps • massecuite feed pump • distributor • fugal water and steam system • sugar screw or belt • sugar conveyor system • drier and fans and air conditioners • sugar scrubber • sugar bin.
<p>Equipment status</p>	<p>Confirming equipment status involves</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational. <p>It may also involve checking operation/calibration of measuring instrumentation.</p>
<p>Equipment operation and monitoring</p>	<p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>

Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Services	Services may include: <ul style="list-style-type: none"> • power • water • compressed and instrumentation air.
Tests	Where tests are conducted as part of operation a typical requirement is pol and moisture by near infra-red. Molasses density may also be required. Sugar industry quality standards are determined at state level.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG216A Operate a crystalliser station process

Modification History

New Unit based on *SUGPCSP2A Operate a crystalliser station process*.

Unit Descriptor

This unit describes the outcomes required to operate the process from the low grade pan receiver through the crystallisers to the re-heater.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the crystalliser station for operation	1.1 Masecuite is confirmed and available to meet production requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The crystallisers are set up to meet production requirements
2 Operate and monitor crystalliser station	2.1 The crystallisation station is started up and operated according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 C masecuite feed to fugals meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification process and equipment performance is identified, rectified and/or reported according to workplace reporting procedure 2.6 The workplace meets housekeeping standards
3 Handover the crystalliser station	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 Crystalliser station operators are aware of system and related equipment status at completion of handover
4 Shut down the crystalliser station	4.1 The appropriate shut down procedure is identified 4.2 The crystalliser station is shut down according to workplace procedures 4.3 The crystalliser station is prepared for storage in shut down mode 4.4 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information to identify production requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm equipment status and condition
- start up from empty and start up from full
- maintain required levels in the crystallisers
- follow cooling and reheating profiles
- start up and operate in both automatic and manual modes
- monitor the process and equipment operation to maintain the process within the required parameters including monitoring:
 - throughput
 - loads on crystalliser drives
 - sugar crystal size and distribution
 - massecuite conductivity
 - massecuite dilution rates
 - end of cooling and reheating temperatures
 - stocks of C massecuite to match pan stage throughput
 - equipment condition
- detect and report water leaks from crystalliser coils
- take corrective action in response to out-of-specification results
- report and/or record corrective action as required
- record workplace information
- demonstrate shift handover procedure
- shut down equipment in response to an emergency situation
- demonstrate an operational shut down procedure
- prepare equipment for cleaning/maintenance
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose and basic principles of crystallisation including a basic understanding of crystal growth and super saturation of solutions
- the effect of C molasses dilution on C massecuite viscosity
- the effect on C molasses purity of variation in:
 - end of cooling and reheating temperatures

- residence time
- the effect of C massecuite conditioning on low grade fugal performance
- the circuit flow of this process and relationship to related processes
- equipment purpose and basic operating principles of crystallization equipment
- the risks and consequences of pipe failure related to massecuite decomposition
- services used
- operating requirements and parameters
- requirements when starting up full crystallisers containing cold massecuite
- requirements when shutting down full crystallisers containing hot massecuite
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- hazards and controls
- lock out and tag out procedures
- shut down sequence including massecuite pumps and re-heaters
- requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
- procedures and responsibility for reporting problems
- environmental issues and controls
- waste handling requirements and procedures
- recording requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • start up from empty or from full in manual and automatic modes • monitor the process and equipment operation • detect and report water leaks from crystalliser coils • demonstrate shift handover procedure • shut down equipment in response to an emergency situation • demonstrate an operational shut down procedure.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Operating procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Product and process specifications and operating parameters • Crystalliser station equipment • Materials including C masseuite and services as required • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems, requirements and procedures. <p>They may also require access to:</p> <ul style="list-style-type: none"> • Cleaning procedures, sampling schedule and procedures and maintenance procedures and tools depending on the work requirements.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p>

	<ul style="list-style-type: none">• SUG202A Collect and prepare samples• SUG213A Perform standard tests on a cane sample• FDFOP2030A Operate a process control interface.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Crystalliser station	The crystalliser station may include: <ul style="list-style-type: none"> • low grade pan receiver • massecuite pumps • batch and continuous crystallisers • re-heater • molasses lubrication system • hot and cold water systems.
Equipment status	Confirming equipment status involves <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational. <p>It may also involve checking operation/calibration of measuring instrumentation.</p>
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Services	Services may include: <ul style="list-style-type: none"> • power • water • compressed and instrumentation air.
Tests	Where tests are conducted as part of operation a typical requirement is observation using a microscope.

Process monitoring	Monitoring the process may involve the use of production data such as performance control charts.
Control points	Control points refer to those key points in a work process which must be monitored and controlled.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG217A Operate a turbine

Modification History

New Unit based on *SUGPOTB2A Operate a turbine*.

Unit Descriptor

This unit describes the outcomes required for continuous and short term operation of a turbine and for start-up and shut down after a prolonged break. This unit is based on the following Worksafe Australia Standards for Users and Operators of Industrial Equipment - NOHSC 1006 (2001):- Start steam turbine, Operate and monitor turbine, and Shut down turbine. Turbine operators holding a ticket from the relevant state regulatory authority will be granted equivalence in this unit *FDFSUG230A Operate a turbine* for the purpose of issuing a qualification.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the turbine for operation	1.1 Personal protective clothing and equipment is selected and used 1.2 Pre-operational checks are conducted 1.3 Run warm up sequence of turbine in preparation for handover to console 1.4 Health and safety hazards/maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Start and monitor turbine operation	2.1 The turbine is started and brought on line safely according to workplace procedures and manufacturer's recommendations 2.2 Plant is operated within limits of manufacturer's specifications to meet workplace requirements 2.3 Equipment is monitored to confirm operating condition 2.4 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 Operating data and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to hazards and abnormal plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover turbine operations	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Turbine operators are aware of turbine status and related equipment at completion of handover
5 Shutdown the turbine	5.1 The turbine is operationally shut down according to workplace procedures and manufacturer's recommendations 5.2 Valves and fittings are removed in preparation for maintenance as required 5.3 The turbine is stored in shut down mode 5.4 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- access workplace information on operating requirements
- select, fit and use personal protective clothing and/or equipment
- handle chemicals safely. This includes following correct handling and storage procedures and use of appropriate protective clothing and equipment
- identify and report hazards and potential hazards in the work area
- confirm status of turbine and related services including availability of steam
- conduct pre-start checks. This typically include checking:
 - cooling water supply
 - overspeed trip
 - emergency stop
 - operation and position of valves, fittings, steam traps and steam line purge systems
 - lubrication system
 - condensate drainage system
 - steam quality and pressure
 - heat input rate
 - free rotation of turbine
 - reticulation line pressure and system warm up
- liaise with other work areas to advise of turbine status
- demonstrate set up and start up procedures in both manual and automatic modes and for both a hot start and cold start
- monitor turbine operation. This typically includes monitoring:
 - bearing temperature
 - steam pressures
 - speeds
 - glands
 - water filters
 - oil levels and flows
 - equipment condition including noise and vibration
 - steam reticulation line pressure
 - lubrication system
 - condenser operation (where fitted)
- take corrective action in response to abnormal or unacceptable performance
- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of equipment status and operating requirements prior to completing handover

- demonstrate procedure to take turbine off line
- demonstrate procedure to prepare the turbine for a prolonged shut down. This includes removal of valves and fittings
- demonstrate emergency trip procedure and related re-start
- record operating information
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safety features of the turbines. These include relief and over-speed trip valves
- safe work procedures including awareness of health and safety hazards related to turbine operation and associated control measures. Hazards typically include handling chemicals, working around hot surfaces, working around moving equipment, manual handling, oil and steam leaks.
- hierarchy of hazard control measures
- duty of care of the turbine operator
- purpose and limitations of protective clothing and equipment
- turbine system layout and steam cycle
- relationship to other processes. This includes suppliers and users of steam across the site
- the effect of steam quality on turbine operation
- the effect of low steam pressure on turbine operation
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- equipment purpose and basic operating principles of turbine and related equipment including the properties of steam
- operating requirements and parameters
- procedures for responding to emergency situations. This includes safe operational shutdown procedure
- handover and long term shut down and storage procedures
- environmental issues and controls
- housekeeping standards for the work area
- reporting and recording systems. This includes both statutory and workplace requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm status of turbine and related services including availability of steam • conduct pre-start checks • liaise with other work areas to advise of turbine status • demonstrate set up and start up procedures • monitor turbine operation • take corrective action in response to abnormal or unacceptable performance • demonstrate shift handover procedure • demonstrate procedure to take turbine off line • demonstrate procedure to prepare the turbine for a prolonged shut down • demonstrate emergency trip procedure and related re-start.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Turbine and related equipment • Relevant codes and standards • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>For assessment advice where the turbine operation is not a certified occupation, refer to the Assessment Guidelines for this Training Package. Where turbine operation is a certificated occupation, refer to the</p>

	<p>appropriate NOHSC competency standards, available from National Occupational Health and Safety Commission.</p> <p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Equipment status	Confirming equipment status involves <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational.
Turbines and related equipment	Turbines and related equipment may include <ul style="list-style-type: none"> • turbines and pass-out turbines • condensers • oil coolers • vacuum pumps • filters.
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Services	Services may include: <ul style="list-style-type: none"> • steam • water • mill • instrumentation air and power.
Tests	Tests may include trip tests.
Teamwork	Work may require the ability to work within a team environment.

Information systems	Information systems may be print or screen based.
----------------------------	---

Unit Sector(s)

Sugar Milling.

FDFSUG218A Operate a boiler - basic

Modification History

New Unit based on *SUGPOBB2A Operate a boiler - basic*.

Unit Descriptor

This unit describes the outcomes required for continuous and short term operation of a basic boiler and for start-up and shut down after a prolonged break. This unit is based on the boiler competency standards from the Worksafe Australia Standards for Users and Operators of Industrial Equipment NOHSC 1006 (2001). It should be selected where boiler operation is a certificated occupation. Boiler operators holding a ticket in Basic Boiler Operation from the relevant state regulatory authority will be granted equivalence in this unit *FDFSUG231A Operate a boiler basic* for the purpose of issuing a qualification.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the boiler for operation	1.1 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures 1.2 The boiler is purged according to workplace procedure 1.3 Services are confirmed and available 1.4 Pre-operational checks are conducted to confirm operational status of boiler and related equipment
2 Start and monitor boiler operation	2.1 The boiler is started and brought on line safely according to workplace procedures and manufacturer's specifications 2.2 Plant is operated within limits of manufacturer's specifications to meet workplace requirements 2.3 Equipment is monitored to confirm operating condition 2.4 Water quality is tested and adjusted as required 2.5 Sluice water is circulated to remove ash from boiler according to duty requirements 2.6 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 Operating data and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to Hazards, out-of-specification test results and/or plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover boiler operations	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Boiler operators are aware of boiler status and related equipment at completion of handover
5 Carry out an operational shutdown	5.1 The boiler is shut down according to workplace procedures and manufacturer's recommendations 5.2 Maintenance requirements are identified and reported according to workplace reporting procedure
6 Shutdown the boiler and prepare for an internal inspection	6.1 The boiler is shut down according to workplace procedures and manufacturer's recommendations 6.2 The boiler is cleaned internally and externally according to workplace procedures and manufacturer's recommendations 6.3 Valves and fittings are removed in preparation for maintenance
7 Store boiler in	7.1 The boiler is stored in the appropriate storage mode according to

ELEMENT	PERFORMANCE CRITERIA
shutdown mode	workplace procedures and manufacturer's recommendations
8 Record information	8.1 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information on combustion and operating requirements
- select, fit and use personal protective clothing and/or equipment
- identify and report hazards and potential hazards in the work area
- confirm status of boiler and related equipment including the fuel supply system, ash removal and services
- demonstrate purge procedure
- conduct pre-start checks including checking:
 - feed water supply and system
 - fuel supply system
 - fans and dampers
 - inspection doors
 - boiler valves - operation and position
 - combustion air supply system
 - boiler water level
- liaise with other work areas to advise of boiler status
- demonstrate set-up and start-up procedures in both manual and automatic modes
- monitor boiler operation including monitoring:
 - steam reticulation line pressure
 - boiler steam pressure
 - steam supply/usage
 - condensate tank level
 - bagasse levels
 - feedwater levels and pressure
 - fuel levels
 - boiler load
 - water quality
 - furnace pressure
 - ash pit level and removal system
 - balance draft system
 - superheater temperature
 - drum levels
 - equipment condition
- conduct water quality test
- take corrective action in response to out-of-specification results

- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of all relevant issues prior to completing handover
- demonstrate procedure to take boiler off line
- demonstrate procedure to shut-down and clean the boiler
- demonstrate removal of valves and fittings to prepare the boiler for inspection
- demonstrate procedure to store boiler
- demonstrate emergency procedures and related re-start including the use of emergency fuel supply
- maintain workplace records
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to boiler operation and associated control measures
- purpose and limitations of protective clothing and equipment
- hierarchy of hazard control measures
- duty of care of the boiler operator
- purpose and basic principles of combustion and boiler operation including principles of heat transfer and properties of steam
- boiler system layout and steam cycle
- the purpose of purging a boiler
- the effect of fuel quality on boiler operation
- impact of ash removal on efficient boiler operation and impact of sluice water flow
- relationship to other processes including an understanding of the impact of sudden load changes on boiler pressure and plant operation
- purpose and limitations of protective clothing and equipment
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- water quality test procedures
- typical causes of water/condensate contamination and corrective action required
- equipment purpose and basic operating principles including high pressure feed pumps, fuel supply system and dual fuel systems as required by boiler type
- operating requirements and parameters
- procedures for responding to emergency situations including safe shutdown procedure
- handover and long term shut down and storage procedures
- cleaning procedures and grate dumping
- environmental issues and controls including an understanding of sluice water usage
- requirements to liaise/advise related work areas
- housekeeping standards for the work area

- reporting and recording systems including both statutory and workplace requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm status of boiler and related equipment including the fuel supply system, ash removal and services • demonstrate purge procedure • conduct pre-start checks • liaise with other work areas to advise of boiler status • demonstrate set up and start up procedures in both manual and automatic modes • conduct water quality test • take corrective action in response to out-of-specification results • report and/or record corrective action • demonstrate emergency procedures and related re-start.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Boiler and related equipment. This includes fuel supply, grate cleaning and ash removal systems • Relevant codes and standards • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none"> • FDFOP2030A Operate a process control interface
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Boilers [basic]	Boiler (basic) and related equipment may be <ul style="list-style-type: none"> • fully or partly attended, and include • single fixed combustion air supply • non-modulating single heat source • fixed firing rate. <p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>
Hazards	Hazards typically include: <ul style="list-style-type: none"> • working around hot surfaces • manual handling • steam, hot gasses and fuel leaks.
Services	Services can include fuel supply of bagasse, coal, gas, oil or other fuel types, steam, mill and instrumentation air, cooling water, general mill water supply and cooling water.
Equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that cleaning standards are met • all safety guards and manholes are in place • equipment is operational.
Internal cleaning	Internal cleaning is carried out in accordance with statutory requirements regarding confined space entry

	and does not typically include chemical cleaning.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG219A Operate a bagasse fuel supply system

Modification History

New Unit based on *SUGPFSB2A Operate a fuel supply system - bagasse*.

Unit Descriptor

This unit describes the outcomes required to operate a bagasse fuel system and related auxiliary fuel system to supply a boiler. The auxiliary fuel supply system is typically an oil system.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the fuel supply system for operation	1.1 Pre-operational checks are conducted 1.2 Health and safety hazards are identified and controlled 1.3 Maintenance requirements are identified and reported according to workplace reporting procedure 1.4 Primary and auxiliary fuel is available to meet combustion requirements 1.5 Services are confirmed as available and ready for operation
2 Start and monitor operation of the fuel supply system	2.1 The fuel supply system is operated within limits of manufacturer's specifications to meet workplace requirements 2.2 The fuel supply system is monitored to confirm performance is maintained within manufacturer's specifications to meet workplace requirements 2.3 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 System operating conditions are monitored to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to hazards and abnormal plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover fuel system operations	4.1 Workplace records are maintained in accordance with workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Fuel system operators are aware of system and related equipment status at completion of handover
5. Shutdown the fuel supply system	5.1 The fuel supply system is shut down according to workplace procedures and manufacturer's recommendations 5.2 The fuel supply system is prepared for storage in shut down mode 5.3 Maintenance requirements are identified and reported according to workplace reporting procedure 5.4 Fuel is stored to meet fuel requirements and workplace standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information fuel supply requirements
- select, fit and use personal protective clothing and/or equipment
- confirm status of fuel supply system and related services including confirming availability of auxiliary fuel
- conduct pre-start checks
- demonstrate set up and start up procedures in both manual and automatic modes and starting for normal operation and after emergency stops
- monitor fuel supply system operation including monitoring:
 - fuel levels
 - bagasse belt height
 - temperature
 - fuel oil pressure (on auxiliary system)
 - speed
 - vibration
 - smell
 - noise
- take corrective action in response to abnormal or unacceptable performance
- demonstrate procedure for test firing burners
- demonstrate procedure for removing, inspecting, cleaning and replacing oil burners including use of go/no go gauges on atomising tips
- demonstrate procedure for clearing fuel blockages or chokes throughout the system
- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of equipment status and operating requirements prior to completing handover
- demonstrate procedure to take fuel supply system off-line
- demonstrate emergency procedures including operation of auxiliary/emergency fuel supply system
- demonstrate fuel storage and/or reclamation procedures as required in the workplace
- record operating information
- maintain work area to meet housekeeping standards

Required knowledge includes

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to operation

of fuel supply system and associated control measures

- hierarchy of hazard control measures
- purpose and limitations of protective clothing and equipment
- properties of bagasse and bagacillo and impact of variation on combustion
- impact of bagasse belt levels on system capacity to supply
- principles of flame management systems including understanding of when and how to purge boiler before relighting in a flame out situation
- purpose and operation of auxiliary fuel supply
- functions and basic operating principles of fuel supply system, components and auxiliary equipment
- operating requirements and parameters
- supply system layout
- the effect of fuel quality and supply on boiler operation
- relationship between viscosity and temperature for burner operation
- purpose of atomising steam and/or air
- purpose of purge cycle for the burner
- relationship between fuel supply system and other processes
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- procedures for responding to emergency situations including emergency shutdown procedure
- handover and long term shut down and storage procedures
- fuel storage requirements
- fuel reclamation options and procedures as appropriate for the workplace and fuel type
- environmental issues and controls
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm status of fuel supply system • demonstrate set up and start up procedures in both manual and automatic modes • monitor fuel supply system operation • take corrective action in response to abnormal or unacceptable performance • demonstrate procedure for test firing burners • demonstrate procedure for removing, inspecting, cleaning and replacing oil burners • demonstrate procedure for clearing fuel blockages or chokes throughout the system • demonstrate shift handover procedure • demonstrate procedure to take fuel supply system off-line • demonstrate emergency procedures • demonstrate fuel storage and/or reclamation procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Bagasse fuel supply system and related equipment • Relevant codes and standards • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Where the operator is required to operate a boiler, select the appropriate boiler operation unit.</p> <p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This</p>

	may include: FDFOP2030A Operate a process control interface.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Hazards	Hazards typically include working with moving equipment, working on platforms, risk of bagasse forming an explosive dust and related risks of fire associated with hot work and spontaneous combustion.
Supply system equipment	Equipment components and auxiliary equipment may include: <ul style="list-style-type: none"> • fuel supply storage • conveyor systems • fines separation.
Services	Services may include: <ul style="list-style-type: none"> • instrumentation • mill air and power.
Reclamation procedures	Reclamation procedures refer to reclamation of bagasse stockpiles.
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Equipment status	Confirming equipment status involves <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational.

Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG220A Operate a coal fuel supply system

Modification History

New Unit based on *SUGPFSC2A Operate a fuel supply system - coal*.

Unit Descriptor

This unit describes the outcomes required to operate a coal fuel system and related auxiliary fuel system to supply a boiler. The auxiliary fuel supply system is typically an oil system.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the fuel supply system for operation	1.1 Pre-operational checks are conducted 1.2 Health and safety hazards are identified and controlled 1.3 Maintenance requirements are identified and reported according to workplace reporting procedure 1.4 Primary and auxiliary fuel is available to meet combustion requirements 1.5 Services are confirmed as available and ready for operation
2 Start and monitor operation of the fuel supply system	2.1 The fuel supply system is operated within limits of manufacturer's specifications to meet workplace requirements 2.2 The fuel supply system is monitored to confirm performance is maintained within manufacturer's specifications to meet workplace requirements 2.3 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 System operating conditions are monitored to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to hazards and abnormal plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover fuel system operations	4.1 Workplace records are maintained in accordance with workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Fuel system operators are aware of system and related equipment status at completion of handover
5 Shutdown the fuel supply system	5.1 The fuel supply system is shut down according to workplace procedures and manufacturer's recommendations 5.2 The fuel supply system is prepared for storage in shut down mode 5.3 Maintenance requirements are identified and reported according to workplace reporting procedure 5.4 Fuel is stored to meet fuel requirements and workplace standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information fuel supply requirements
- select, fit and use personal protective clothing and/or equipment
- confirm status of fuel supply system and related services including confirming availability of auxiliary fuel
- conduct pre-start checks
- demonstrate set up and start up procedures in both manual and automatic modes and starting for normal operation and after emergency stops
- monitor fuel supply system operation including monitoring:
 - fuel levels
 - temperature
 - coal system - may include shake times, blow pressure and fuel moisture levels
 - ash systems
- take corrective action in response to abnormal or unacceptable performance
- demonstrate procedure for test firing burners
- demonstrate procedure for clearing fuel blockages or chokes throughout the system
- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of equipment status and operating requirements prior to completing handover
- demonstrate procedure to take fuel supply system off-line
- demonstrate emergency procedures including operation of auxiliary/emergency fuel supply system
- record operating information
- maintain work area to meet housekeeping standards

Required knowledge includes

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to operation of fuel supply system and associated control measures
- hierarchy of hazard control measures
- purpose and limitations of protective clothing and equipment
- principles of flame management systems including understanding of when and how to purge boiler before relighting in a flame-out situation
- the amount of caustic addition for each tonne of coal burnt
- purpose and operation of auxiliary fuel supply

- functions and basic operating principles of fuel supply system, components and auxiliary equipment
- operating requirements and parameters
- supply system layout
- the effect of fuel quality and supply on boiler operation
- relationship between fuel supply system and other processes
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- procedures for responding to emergency situations including emergency shutdown procedure
- handover and long term shut-down and storage procedures
- fuel storage requirements
- fuel reclamation options and procedures as appropriate for the workplace and fuel type
- environmental issues and controls
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • Confirm status of fuel supply system and related services • Demonstrate set up and start up procedures • Monitor fuel supply system operation • Take corrective action in response to abnormal or unacceptable performance • Demonstrate procedure for test firing burners • Demonstrate procedure for removing, inspecting, cleaning and replacing oil burners • Demonstrate procedure for clearing fuel blockages or chokes throughout the system • Report and/or record corrective action as required • Demonstrate shift handover procedure • Demonstrate procedure to take fuel supply system off-line • Demonstrate emergency procedures including operation of auxiliary/emergency fuel supply system.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Coal fuel supply system and related equipment • Relevant codes and standards • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <p>FDFOP2030A Operate a process control interface.</p>

Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
-------------------------------------	---

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Supply system equipment	Equipment components and auxiliary equipment may include: <ul style="list-style-type: none"> • fuel supply storage • conveyor systems • fines separation.
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Equipment status	Confirming equipment status involves <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational.
Hazards	Hazards typically include working with moving equipment, working on platforms, risk of fire associated with hot work and spontaneous combustion.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG221A Operate an ash separation system

Modification History

New Unit based on *SUGPARS2A Operate an ash separation system*.

Unit Descriptor

This unit describes the outcomes required to operate a system to separate ash solids from boiler sluice water by use of clarifiers and filters.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the ash separation system for operation	1.1 Materials are confirmed and available to meet requirements 1.2 Services are confirmed as available and ready for operation 1.3 Equipment is checked to confirm readiness for use 1.4 The ash separation process is set to meet production requirements 1.5 Health and safety hazards/maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Operate the ash separation process	2.1 The ash separation system is operated within limits of manufacturer's specifications to meet workplace requirements 2.2 The ash separation system is monitored to confirm performance is maintained within manufacturer's specifications to meet workplace requirements 2.3 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 System operating conditions are monitored to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to hazards and abnormal plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover ash separation operations	4.1 Operating log is maintained in accordance with workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 System operators are aware of system and related equipment status at completion of handover
5 Complete ash separation operations	5.1 Ash is collected and disposed according to company procedures 5.2 Maintenance requirements are identified and reported according to workplace reporting procedure 5.3 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information ash separation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm status of equipment and that services are available
- conduct pre-start checks
- demonstrate start-up procedures for preparing and operating each equipment component in the system
- demonstrate safe chemical preparation and handling
- monitor the ash separation system including visual inspection and conducting tests to monitor characteristics such as:
 - moisture content of ash going out of the system
 - available storage capacity of ash holding area
 - filter performance and condition
- take corrective action in response to abnormal or unacceptable performance
- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of equipment status and operating requirements prior to completing handover
- record operating information
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to operation of the ash removal system and associated control measures.
- purpose and limitations of protective clothing and equipment
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- properties of ash or soot and the impact on filter operation
- functions and operating principles of ash separation system and related equipment
- relationship between vacuum, filter speed and cake permeability
- operating requirements and parameters
- test methods
- common causes of variation and corrective action required
- procedures for responding to emergency situations including safe shutdown procedure
- handover and long term shut down and storage procedures

- environmental issues and controls
- procedures for containing and managing ash spills
- housekeeping standards for the work area
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • Conduct pre-start checks • Demonstrate start-up procedures • Demonstrate safe chemical preparation and handling • Monitor the ash separation system • Take corrective action in response to abnormal or unacceptable performance • Report and/or record corrective action • Demonstrate shift handover procedure • Record operating information • Maintain work area to meet housekeeping standards.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Ash separation system and related equipment • Relevant codes and standards • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <p>FDFOP2030A Operate a process control interface.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Equipment	Equipment may include: <ul style="list-style-type: none"> • grate cleaning system • ash and soot blowing equipment • ash removal system • pumps • weirs • tanks • belt and rotary filters • chemical addition systems • clarifier.
Hazards	Hazards typically include working with airborne particulates containing silica, chemical handling and use of hot water.
Ash separation	Ash separation may involve use of clarifiers followed by a filter, use of screens or by filter only.
Services	Services may include: <ul style="list-style-type: none"> • power and mill • general mill water supply • instrumentation air.
Chemicals	Chemicals may include: <ul style="list-style-type: none"> • caustic soda • flocculants.

Tests	<p>Typical test requirements include:</p> <ul style="list-style-type: none"> • pH • settling tests • clarity or turbidity.
Equipment status	<p>Confirming equipment status involves</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational.
Equipment operation and monitoring	<p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>
Teamwork	<p>Work may require the ability to work within a team environment.</p>
Information systems	<p>Information systems may be print or screen based.</p>

Unit Sector(s)

Sugar Milling.

FDFSUG222A Operate a waste water treatment system

Modification History

New Unit based on *SUGPWWT2A Operate a waste water treatment system*.

Unit Descriptor

This unit describes the outcomes required to operate waste water treatment systems to comply with workplace requirements, trade waste agreements and site environmental authority.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the waste water treatment process for operation	1.1 Chemicals and test equipment are available and ready for use 1.2 Services are confirmed as available and ready for operation 1.3 Pre-operational checks are conducted 1.4 Instrumentation and test equipment is calibrated to manufacturer's specifications to meet workplace requirements 1.5 Health and safety hazards/maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Operate and monitor the waste water treatment process	2.1 The waste water system is started up according to company procedures 2.2 Plant is operated within limits of manufacturer's specifications to meet workplace requirements 2.3 Equipment is monitored to confirm operating condition 2.4 Waste water quality is monitored, tested and adjusted as required to meet water standards as defined by site licence 2.5 First flush systems are operated during rainfall events 2.6 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 Water condition and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to hazards, out-of-specification test results and/or plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover waste water treatment system	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Waste water treatment operators are aware of system status and related equipment at completion of handover
5 Shutdown the waste water treatment system	5.1 The waste water treatment system is shut down according to workplace procedures 5.2 The waste water treatment system is prepared for storage in shut down mode 5.3 Maintenance requirements are identified and reported according to workplace reporting procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information to identify waste treatment requirements
- select, fit and use personal protective clothing and/or equipment
- confirm services are available and equipment is clean and ready for operation
- handle chemicals safely including follow correct preparation, handling and storage procedures and use of appropriate protective clothing and equipment
- conduct pre-start checks
- liaise with other work areas as required
- demonstrate wastewater system operating procedures in both manual and automatic modes
- demonstrate first flush system operating procedures in both manual and automatic modes
- monitor waste water system operation including monitoring:
 - chemical addition rates and residuals
 - temperatures
 - flow rates
 - equipment condition including calibration of instruments
 - tests as required
 - dissolved oxygen levels
 - pH levels
- conduct water quality tests
- take corrective action in response to out-of-specification results or non-compliance
- monitor supply and quality of waste water to and from the process
- report and/or record corrective action as required
- demonstrate emergency procedures to control chemical spills or other major incidents relevant to the workplace
- demonstrate shift handover procedure
- demonstrate an operational shut down procedure
- maintain workplace records to meet the requirements of the workplace and site environmental authority
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, environmental acts and policies, standards and codes of practice relating to work responsibilities including awareness of standards set out in site license arrangements
- safe work procedures including awareness of health and safety hazards related to waste water system operation and associated control measures

- hierarchy of hazard control measures
- purpose and limitations of protective clothing and equipment
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- water cycles for trade waste, storm water and sewerage including sources and flow patterns
- purpose and standards required by environmental agreements and responsibilities
- company policy relating to environmental performance
- consequences of non-conformance
- waste characteristics and treatment methods
- sampling and test procedures as appropriate
- purpose of chemicals used
- purpose of first flush systems and their relationship with the wastewater treatment system
- operating requirements and parameters
- water quality sampling and test procedures including the purpose of test and safe use, care and storage of relevant test equipment, interpretation and recording of results
- typical causes of non-conforming water quality and corrective action required
- equipment purpose and basic operating principles of waste water treatment equipment and methods
- requirements of both operational and long term shut down conditions to ensure the equipment is left in a safe state for the period of the shutdown and to minimise any delays in future start up
- housekeeping standards for the work area
- reporting and recording systems including both statutory and workplace requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • handle chemicals safely • demonstrate wastewater system operating procedures • demonstrate first flush system operating procedures • conduct water quality tests • take corrective action in response to out-of-specification results or non-compliance • monitor supply and quality of waste water • report and/or record corrective action • demonstrate emergency procedures • demonstrate shift handover procedure • demonstrate an operational shut down procedure.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Waste water treatment systems and related chemicals • Test equipment • Relevant advice on environmental agreements • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, manufacturer's recommendations, legislative requirements, site licenses and trade waste service agreements and industrial awards and agreements. Legislation refers to environmental acts and regulations.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications
<p>Equipment</p>	<p>Equipment may include</p> <ul style="list-style-type: none"> • screens • pH correction • oil/grease skimmers • settling and treatment ponds • aeration units • lagoons • first flush systems and wetlands • pumps and valves.
<p>Equipment status</p>	<p>Confirming equipment status involves</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks • confirming that housekeeping standards are met • all safety guards are in place • equipment is operational.
<p>Hazards</p>	<p>Hazards typically include handling chemicals, manual handling and flammable gases.</p>
<p>Equipment operation and monitoring</p>	<p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>
<p>Tests</p>	<p>Typical tests may include</p> <ul style="list-style-type: none"> • pH • solids • colour/turbidity • flow rate

	<ul style="list-style-type: none">• settling rate• settled volume• DO• BOD/COD levels.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling.

FDFSUG223A Operate a cooling water system

Modification History

New Unit based on *SUGPCWS2A Operate a cooling water system*.

Unit Descriptor

This unit describes the outcomes required to operate cooling towers or spray ponds to supply treated, cool water for factory requirements.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the cooling tower/s for operation	1.1 Tower cleaning procedures are followed and cleaning records completed 1.2 Chemicals are available and delivery systems are ready for operation 1.3 Make-up water supply is available and meets quality requirements 1.4 Pre-operational checks are conducted 1.5 Health and safety hazards/maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Start and monitor cooling tower	2.1 The cooling tower system is started according to workplace procedures and manufacturer's recommendations 2.2 Plant is operated within limits of manufacturer's specifications to meet workplace requirements 2.3 Equipment is monitored to confirm operating condition and cleanliness 2.4 Water quality is monitored, tested and adjusted as required 2.5 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 Water condition and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to hazards, out-of-specification test results and/or abnormal plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Shutdown and clean the cooling water system	4.1 The cooling water system is cleaned according to workplace cleaning schedule and to meet legal requirements 4.2 The timing and sequencing of cooling water system shut down meets production requirements 4.3 Maintenance requirements are identified and reported according to workplace reporting procedure
5 Record information	5.1 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information on cooling water requirements
- select, fit and use personal protective clothing and/or equipment
- confirm status of equipment, that it is clean and ready for operation and services are available
- prepare and handle chemicals safely including following correct preparation, handling and storage procedures and use of appropriate protective clothing and equipment
- conduct pre-start checks including checking:
 - raw water supply
 - tower condition and cleanliness
 - spray and pond condition
 - all safety guards and covers are in place and operational
 - mechanical integrity of pumps, drives and fans
 - drains are closed
 - chemicals are available
- liaise with other work areas to advise of users of cooling system status
- demonstrate set up and start up procedures in both manual and automatic modes
- monitor cooling water system operation including visual inspections and conducting tests to monitor characteristics such as:
 - chemical addition rates and residuals
 - water quality
 - blow-down rate
 - temperatures
 - water distribution
 - signs of fouling and corrosion
 - equipment condition including fans, sprays and pumps
 - water level and make-up flow
- take corrective action in response to out-of-specification results
- report and/or record corrective action as required
- demonstrate procedure to clean and shut down cooling water system
- demonstrate use of emergency cooling water supply system
- maintain workplace records including cleaning records and chemical usage
- maintain work area to meet housekeeping standards

Required knowledge include:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- purpose and basic principles of evaporative cooling and water treatment in order to prevent corrosion and microbiological fouling
- cooling water system layout
- the effect of make-up water quality on blow down rates and fouling rates
- the impact of variables including cooling water failure and high water temperature and plant operation
- purpose of chemicals used
- consequences of system fouling and typical causes
- safe work procedures including awareness of health and safety hazards related to cooling water system operation and associated control measures
- hierarchy of hazard control measures
- purpose and limitations of protective clothing and equipment
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- water quality test procedures
- typical causes of water contamination and corrective action required
- equipment purpose and basic operating principles of cooling water system and related equipment including pumps, valves, tower and fans and dosing system
- operating requirements and parameters
- cleaning methods and procedures
- procedures for operating the emergency cooling water system
- environmental issues and controls including those relating to chemical and/or container disposal and any overflow of the system to waters of the state
- requirements to liaise/advise related work areas
- housekeeping standards for the work area
- reporting and recording systems including both statutory and workplace requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm status of equipment • demonstrate set up and start up procedures • monitor cooling water system operation • undertake visual inspections and conduct tests to monitor cooling water system operation • clean and shut down cooling water system.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Cooling water system and related equipment • Chemicals • Relevant codes and standard Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <p>FDFOP2030A Operate a process control interface.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, manufacturer's recommendations, licensing requirements, codes of practice, legislative requirements, industrial awards and agreements and Australian Standard AS3666, parts I, II and III.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include: <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Hazards	Hazards typically include handling chemicals, manual handling, risks of working with warm water systems (<i>Legionella</i>).
Equipment	Equipment may include: <ul style="list-style-type: none"> • the tower • spray ponds • supply pump and return pump • chemical addition systems and blow down system. <p>Typically a number of cooling towers would be located on site. They may be integrated or stand-alone.</p>
Equipment operation and monitoring	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Tests	Typical tests may include: <ul style="list-style-type: none"> • pH • total dissolved solids (TDS) • conductivity • standard plate count (SPC) • <i>Legionella</i> • tests specific to chemicals used.
Teamwork	Work may require the ability to work within a team environment.

Information systems	Information systems may be print or screen based.
----------------------------	---

Unit Sector(s)

Sugar Milling.

FDFSUG224A Perform standard tests on cane samples

Modification History

New Unit based on *SUGPPST2A Perform standard tests*.

Unit Descriptor

This unit describes the outcomes required to analyse samples for cane payment and routine factory control. Tests are typically routine, repetitive procedures based on defined methods and require interpretation of results within clearly defined guidelines.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for testing	<ul style="list-style-type: none">1.1 Testing requirements and methods are identified1.2 Testing equipment is confirmed as available and fit for use1.3 Test chemicals and reagents are prepared and labelled as required by test method1.4 Samples are prepared as required by test method1.5 Pre-test checks are conducted and recorded according to workplace recording requirements
2 Conduct test	<ul style="list-style-type: none">2.1 Conduct test in accordance with test method and test schedule2.2 Identify and report atypical test results2.3 Record and communicate test results as required2.4 Follow procedures to repeat or validate results2.5 Clean, care for and store equipment as required2.6 Dispose of waste materials according to workplace procedure
3 Record test data in laboratory information system	<ul style="list-style-type: none">3.1 Results are entered into laboratory information systems according to workplace procedure3.2 Correct data entry errors3.3 Store and retrieve data in the laboratory information system3.4 Produce standard reports from laboratory information system

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information such as the test regime to identify test requirements and methods
- select, fit and use personal protective clothing and/or equipment
- confirm that necessary test equipment, chemicals and reagents are available and fit for purpose
- confirm or conduct routine equipment calibration according to workplace procedures, methods and legislative requirements
- handle chemicals safely including following correct handling and preparation procedures and use of appropriate protective clothing and equipment
- demonstrate test procedures according to test schedule and test method
- identify and report any out-of-specification results
- communicate test results to relevant personnel
- maintain and store chemicals, reagents and test equipment required
- sort, collect, treat, recycle or dispose of tested materials
- record information in the laboratory information system including the ability to retrieve, enter and edit data, generate standard reports and store information
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose of the test procedure including a basic understanding of the principles of the test method and of equipment used
- awareness of legislative requirements relating to cane payment tests
- terminology relating to the types of tests and related methods used
- safe work procedures including hazards associated with specific test procedures requirements such as working with chemicals and test equipment
- specific test methods/procedures
- requirements to communicate out-of-specification results
- typical causes of out-of-specification results and procedure for repeating the analysis
- laboratory information system recording and reporting requirements that meet legislative record keeping requirements and workplace requirements.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access test information • confirm test equipment, chemicals and reagents are available • demonstrate test procedures • identify and report any out-of-specification results • communicate test results to relevant personnel • sort, collect, treat, recycle or dispose of tested materials • record information in the laboratory information system.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Test equipment, chemicals and reagents and related equipment • Materials to be tested • Test methods and procedures • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Sample labeling and recording systems, requirements and procedures • Laboratory recording and reporting system.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • Specifications • test methods and • procedures.
<p>Equipment</p>	<p>Equipment is defined by test method and legislative requirements. Confirming equipment condition may include conducting calibration procedures. Calibration procedures are routine, documented procedures.</p>
<p>Standard tests</p>	<p>Tests are typically routine, repetitive procedures based on defined methods and requiring interpretation of results within clearly defined guidelines.</p> <p>The types of tests conducted depends on the test equipment and methods used and may include but are not limited to:</p> <ul style="list-style-type: none"> • bagasse analysis - pol by disintegrator method and moisture • sugar analysis - pol and moisture • juice analysis - clarified juice, first expressed juice and mixed juice - pH, turbidity, brix and pol • mud analysis - pol and moisture • molasses massecuite syrup - brix, pol, apparent purity • drain water analysis - sugar presence by an industry-recognised method.
<p>Teamwork</p>	<p>Work may require the ability to work within a team environment.</p>

Information systems	Information systems may be print or screen based.
----------------------------	---

Unit Sector(s)

Sugar Milling

FDFSUG225A Collect and prepare samples

Modification History

New Unit based on *SUGPCPS2A Collect and prepare samples*.

Unit Descriptor

This unit describes the outcomes required to collect and prepare a range of samples taken during the sugar milling process. It typically applies to an operator who has primary responsibility for sampling and/or testing.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for sampling	1.1 Sampling requirements are identified 1.2 Sampling method is determined to suit sampling requirement 1.3 Confirm that sampling tools and containers are available and fit for use
2 Collect and prepare samples	2.1 Collect samples in accordance with sampling schedule 2.2 Identify and report atypical observations made during sampling 2.3 Store and handle samples to preserve characteristics of sample 2.4 Prepare samples as required by sampling procedure
3 Record sampling information	3.1 Record sampling information according to workplace requirements 3.2 Sample labelling procedures are followed according to workplace requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information such as the sampling plan to identify sampling requirements
- select, fit and use personal protective clothing and/or equipment
- confirm that necessary tools, containers and chemicals are available and fit for purpose
- handle chemicals safely including handling preservatives
- demonstrate handling and preparation procedures and use of appropriate protective clothing and equipment
- demonstrate correct manual handling and safe work practices
- demonstrate sampling collection and preparation procedures
- return plant to operating conditions as required
- identify and report any obvious non-conformance
- maintain and store chemicals, containers and sampling tools as required
- sort, collect, treat, recycle or dispose of sample material
- label samples as required
- record sampling information
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose of a sampling plan including an understanding of the nature of representative samples and importance of maintaining the integrity of samples
- awareness of cane analysis program requirements relating to sampling for cane payment tests
- terminology relating to the types of samples and related methods used
- safe work procedures including appropriate and safe manual handling, safe practices in accessing the sampling point, hazards associated with specific sampling requirements such as working with equipment under pressure, at high temperatures and storage of chemicals used
- specific sample collection and preparation methods/procedures
- sampling regimes implemented in response to special causes or non-conformance
- inspection points for sampling
- typical characteristics of materials sampled to and common contaminants
- sample disposal procedures
- labelling requirements
- reporting and recording systems

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • demonstrate sampling collection and preparation procedures • identify and report any obvious non-conformance • label and record samples.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Sampling schedule • Sampling tools, chemicals, containers and related equipment • Materials to be sampled • Sampling methods and procedures • Sample preparation equipment • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Sample labelling and recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • sampling schemes • schedules.
Cane sampling equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • forks • shovels • scrapers • sample containers • purpose-related tools.
Cane sample preparation	<p>Sample preparation may include:</p> <ul style="list-style-type: none"> • addition of preservatives • fibre preparation such as disintegrator and cutter-grinders • sub-sampling to give a representative sample from given set of samples.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling

FDFSUG226A Perform general drilling operations

Modification History

New Unit based on *SUGSPGD2A Perform general drilling operations*.

Unit Descriptor

This unit describes the outcomes required to carry out general drilling operations using a radial arm drill. This unit achieves part of the outcomes of *MEM07005B Perform general machining*. A person who has achieved competence in this MEM unit is recognised as competent in this sugar milling unit.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisites units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for drilling operations	<ul style="list-style-type: none">1.1 Drilling requirements are identified1.2 Materials to be drilled are collected1.3 Drilling equipment is set up for operation1.4 Pre-operational equipment checks are conducted1.5 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Operate drill to achieve specifications	<ul style="list-style-type: none">2.1 Machining parameters are set to meet job requirements2.2 Materials are positioned for drilling operation2.3 The drill is started, operated and shut down according to operating procedures and manufacturer's specification2.4 Work are checked against specification2.5 Non-conforming components are identified and corrected as required2.6 Basic routine maintenance is carried out as required2.7 The workplace meets housekeeping standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify drilling requirements - this may require interpretation of technical drawings or sketches
- select, fit and use personal protective clothing and/or equipment
- collect and prepare materials according to job and equipment requirements - this may involve basic marking out
- confirm status of equipment, that safety guards are in place, equipment is fit for operation and required services are available
- set up, operate and shut down drilling equipment according to workplace procedures to meet job specification
- monitor and adjust process and equipment during operation to stay within specification
- confirm that components meet specification - this may involve the use of measuring instruments
- maintain work area to meet housekeeping standards.

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- relevant site operating procedures and practices
- purpose and basic operating principles of drilling and accessory equipment including awareness of equipment operating capacities
- care, maintenance and storage of drill parts and accessories
- scope to adjust machining parameters and related effect on outcome
- the impact of machining parameters and materials used on tool life
- safe work procedures including awareness of health and safety hazards related to the operation of the drill and related equipment
- housekeeping standards for the work area.

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify drilling requirements • select, fit and use personal protective clothing and/or equipment • collect and prepare materials according to job and equipment requirements • confirm status of equipment • set up, operate and shut down drilling equipment • monitor and adjust process and equipment • confirm that components meet specification.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Drill and related equipment • Relevant measuring instrumentation • Materials to be drilled • Drawings, templates and specifications as required • Operating procedures and related advice on equipment/instrumentation operation • Personal protective clothing and equipment • Housekeeping standards and procedures.
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Drilling operations	<p>Work is undertaken to pre-determined specifications.</p> <p>Drills are not CNC (Computer Numerical Control) machines.</p> <p>Typical drilling operations include</p> <ul style="list-style-type: none"> • drilling and tapping.
Machining parameters	<p>Machining parameters are typically given and include</p> <ul style="list-style-type: none"> • speeds • feeds • stops • coolant • cutting lubricants.
Measuring instrumentation	<p>Measuring instrumentation may include</p> <ul style="list-style-type: none"> • callipers • dividers • verniers • micrometers.
Pre-operational checks	<p>Pre-operational checks may include</p> <ul style="list-style-type: none"> • confirming that safety guards are in place • equipment is operational • other pre-start checks as required by workplace procedure.
Teamwork	Work may require the ability to work within a team environment.

Unit Sector(s)

Sugar Milling

FDFSUG227A Perform general lathe operations

Modification History

New Unit based on *SUGSPGL2A Perform general lathe operations*.

Unit Descriptor

This unit describes the outcomes required to carry out general lathe operations. A person who has achieved competence in *MEM07005B Perform general machining* or equivalent is recognised as competent in this sugar milling unit.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for lathe operations	<ul style="list-style-type: none">1.1 Machining requirements are identified1.2 Materials are to be machined collected1.3 Lathe equipment is set up for operation1.4 Pre-operational equipment checks are conducted1.5 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Operate lathe to achieve specifications	<ul style="list-style-type: none">2.1 Machining parameters are set to meet job requirements2.2 Materials are accurately positioned for lathe operation2.3 The lathe is started, operated and shut down according to operating procedures and manufacturer's specification2.4 Work is checked against specification2.5 Non-conforming components are identified and corrected as required2.6 Basic routine maintenance is carried out as required2.7 The workplace meets housekeeping standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills includes:

Ability to:

- identify lathe requirements which may require interpretation of technical drawings or sketches
- select, fit and use personal protective clothing and/or equipment
- confirm status of equipment, that safety guards are in place, equipment is fit for operation and required services are available
- collect and position materials according to job and equipment requirements which may require locating datum
- set up, operate and shut down equipment according to workplace procedures to meet job specification
- monitor and adjust process and equipment during operation to stay within specification
- confirm that components meet specification - this may involve the use of measuring instruments
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- relevant site operating procedures and practices
- purpose and basic operating principles of lathe and accessory equipment including awareness of equipment operating capacities
- care, maintenance and storage of tool parts and accessories
- scope to adjust machining parameters and related effect on outcome
- the impact of machining parameters and materials used on tool life
- safe work procedures including awareness of health and safety hazards related to the operation of the lathe and related equipment
- housekeeping standards for the work area

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify lathe requirements • select, fit and use personal protective clothing and/or equipment • confirm status of equipment • collect and position materials • set up, operate and shut down equipment • monitor and adjust process and equipment during operation
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Lathe and related equipment • Relevant measuring instrumentation • Materials for lathing • Drawings, templates and specifications as required • Operating procedures and related advice on equipment/instrumentation operation • Personal protective clothing and equipment • Housekeeping standards and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Lathe operations</p>	<p>Work is undertaken to predetermined specifications.</p> <p>Lathes are not CNC (Computer Numerical Control) machines and may be fitted with three or four jaw chucks.</p> <p>Typical operations include</p> <ul style="list-style-type: none"> • parallel cutting • parting off • drilling and knurling.
<p>Machining parameters</p>	<p>Machining parameters are typically given and include</p> <ul style="list-style-type: none"> • speeds • feeds • stops • coolant • cutting lubricants.
<p>Measuring instrumentation</p>	<p>Measuring instrumentation may include</p> <ul style="list-style-type: none"> • callipers • dividers • verniers and • micrometers • rulers.
<p>Pre-operational checks</p>	<p>Pre-operational checks may include</p> <ul style="list-style-type: none"> • confirming that safety guards are in place • equipment is operational • other pre-start checks as required by workplace procedure.

Basic routine maintenance	Basic routine maintenance includes cleaning and lubrication.
Teamwork	Work may require the ability to work within a team environment.

Unit Sector(s)

Sugar Milling

FDFSUG228A Perform general milling operations

Modification History

New Unit based on *SUGSPGM2A Perform general milling operations*.

Unit Descriptor

This unit describes the outcomes required to carry out general milling operations. A person who has achieved competence in *MEM07005B Perform general machining* or equivalent is recognised as competent in this sugar milling unit.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for milling operations	<ul style="list-style-type: none">1.1 Milling requirements are identified1.2 Materials are collected1.3 Milling equipment is set up for operation1.4 Pre-operational equipment checks are conducted1.5 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Operate milling equipment to achieve specifications	<ul style="list-style-type: none">2.1 Machining parameters are set to meet job requirements2.2 Materials are accurately positioned for milling operation2.3 Milling equipment is started, operated and shut down according to operating procedures and manufacturer's specification2.4 Work is checked against specification2.5 Non-conforming components are identified and corrected as required2.6 Basic routine maintenance is carried out as required2.7 The workplace meets housekeeping standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify milling requirements - this may require interpretation of technical drawings or sketches
- select, fit and use personal protective clothing and/or equipment
- confirm status of equipment, that safety guards are in place, equipment is fit for operation and required services are available
- collect and position materials according to job and equipment requirements
- set up, operate and shut down equipment according to workplace procedures to meet job specification
- monitor and adjust process and equipment during operation to stay within specification
- confirm that components meet specification - this may involve the use of measuring instruments
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- relevant site operating procedures and practices
- purpose and basic operating principles of milling equipment and accessories including awareness of equipment operating capacities
- care, maintenance and storage of tool parts and accessories
- scope to adjust machining parameters and related effect on outcome
- the impact of machining parameters and materials used on tool life
- safe work procedures including awareness of health and safety hazards related to the operation of the mill and related equipment
- housekeeping standards for the work area

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify milling requirements • collect and position materials according to job and equipment requirements • safely set up, operate and shut down equipment • monitor and adjust process and equipment during operation to stay within specification • confirm that components meet specification
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Mill and equipment • Relevant measuring instrumentation • Materials to be milled • Drawings, templates and specifications as required • Operating procedures and related advice on equipment/instrumentation operation • Personal protective clothing and equipment • Housekeeping standards and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Milling operations	<p>This unit does not cover set up of dividing heads. Work is undertaken to pre-determined specifications.</p> <p>Mills are not CNC (Computer Numerical Control).</p> <p>Typical operations include slotting and cutting flats.</p>
Machining parameters	<p>Machining parameters are typically given and include</p> <ul style="list-style-type: none"> • speeds • feeds • stops • coolant • cutting lubricants.
Measuring instrumentation	<p>Measuring instrumentation may include</p> <ul style="list-style-type: none"> • callipers • dividers • verniers and • micrometers • rulers.
Pre-operational checks	<p>Pre-operational checks may include</p> <ul style="list-style-type: none"> • confirming that safety guards are in place • equipment is operational • other pre-start checks as required by workplace procedure.
Basic routine maintenance	Basic routine maintenance includes cleaning and lubrication.
Teamwork	Work may require the ability to work within a team environment.

Unit Sector(s)

Sugar Milling

FDFSUG229A Perform general planing and shaping operations

Modification History

New Unit based on *SUGSPPS2A Perform general planing and shaping operations*.

Unit Descriptor

This unit describes the outcomes required to carry out general planing and shaping operations. A person who has achieved competence in *MEM07005B Perform general machining* or equivalent is recognised as competent in this sugar milling unit.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisites units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for planing and shaping operations	<ul style="list-style-type: none">1.1 Machining requirements are identified1.2 Materials to be planed and/or shaped are collected1.3 Planing and shaping equipment is set up for operation1.4 Pre-operational equipment checks are conducted1.5 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Operate planing and shaping equipment to achieve specifications	<ul style="list-style-type: none">2.1 Machining parameters are set to meet job requirements2.2 Materials are accurately positioned for planing and shaping operation2.3 Planing and shaping equipment is started, operated and shut down according to operating procedures and manufacturer's specification2.4 Work is checked against specification2.5 Non-conforming components are identified and corrected as required2.6 Basic routine maintenance is carried out as required2.7 The workplace meets housekeeping standards

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify planing and shaping requirements - this may require interpretation of technical drawings or sketches
- select, fit and use personal protective clothing and/or equipment
- confirm status of equipment, that safety guards are in place, equipment is fit for operation and required services are available
- collect and position materials according to job and equipment requirements
- set up, operate and shut down equipment according to workplace procedures to meet job specification
- monitor and adjust process and equipment during operation to stay within specification
- confirm that components meet specification - this may involve the use of measuring instruments
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- relevant site operating procedures and practices
- purpose and basic operating principles of planing and shaping equipment and accessories - this includes awareness of equipment operating capacities
- care, maintenance and storage of tool parts and accessories
- scope to adjust machining parameters and related effect on outcome
- the impact of machining parameters and materials used on tool life
- safe work procedures including awareness of health and safety hazards related to the operation of the planing and shaping equipment
- housekeeping standards for the work area

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify planing and shaping requirements • select, fit and use personal protective clothing and/or equipment • confirm status of equipment • collect and position materials according to job and equipment requirements • set up, operate and shut down equipment • monitor and adjust process and equipment during operation • confirm that components meet specification
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Planing and shaping equipment • Relevant measuring instrumentation • Materials for planing and/or shaping • Drawings, templates and specifications as required • Operating procedures and related advice on equipment/instrumentation operation • Personal protective clothing and equipment • Housekeeping standards and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Planing and shaping operations	<p>Work is undertaken to predetermined specifications</p> <p>Planes and shapers are not CNC (Computer Numerical Control) machines.</p> <p>Typical operations include slotting, planing and cutting flats.</p>
Machining parameters	Machining parameters are typically given and include speeds, feeds, stops, coolant and cutting lubricants
Measuring instrumentation	<p>Measuring instrumentation may include</p> <ul style="list-style-type: none"> • callipers • dividers • verniers • micrometers • rulers.
Pre-operational checks	<p>Pre-operational checks may include</p> <ul style="list-style-type: none"> • confirming that safety guards are in place • equipment is operational • other pre-start checks as required by workplace procedure.
Routine maintenance	Basic routine maintenance includes cleaning and lubrication.
Teamwork	Work may require the ability to work within a team environment.

Unit Sector(s)

Sugar Milling

FDFSUG230A Undertake forming, bending and shaping

Modification History

New Unit based on *SUGSFBS2A Undertake forming, bending and shaping*.

Unit Descriptor

This unit describes the outcomes required to carry out forming, bending and shaping operations. A person who has achieved competence in *MEM05010B Apply fabrication, forming and shaping* or equivalent is recognised as competent in this sugar milling unit.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisites units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for forming, bending and shaping to meet specifications	1.1 Forming, bending and shaping requirements are identified 1.2 The equipment is set up and adjusted to achieve required outcomes 1.3 Simple templates are prepared to meet outcome specifications 1.4 Pre-operational equipment checks are conducted 1.5 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures
2 Operate forming, bending and shaping equipment to achieve required outcome	2.1 Equipment is started, operated and shut down according to operating procedures and manufacturer's specification 2.2 Materials are accurately positioned in the machine/equipment 2.3 Equipment is adjusted as required to achieve required outcomes 2.4 The workplace meets housekeeping standards
3 Form, bend and shape material	3.1 Material is levelled, straightened, rolled, pressed or bent to achieve required outcomes 3.2 Material is formed and shaped to size to meet specifications 3.3 Final form/shape is checked for compliance to specification 3.4 Non-conforming shapes are identified and corrected as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify forming, bending and shaping requirements - this may require interpretation of technical drawings or sketches
- select, fit and use personal protective clothing and/or equipment
- confirm status of equipment, that safety guards are in place, equipment is fit for operation and required services are available
- mark out and produce simple templates - this involves producing sheet metal templates developed and cut to the required size
- position or feed material according to equipment requirements
- set up, adjust, operate and shut down equipment according to workplace procedures
- produce formed and/or shaped material to meet job specification
- confirm that the formed and/or shaped material meets specification - this may involve the use of templates and simple measuring instruments
- take corrective action in response to out-of-tolerance results
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- relevant site operating procedures and practices
- purpose and basic operating principles of forming, bending and shaping equipment including awareness of equipment operating capacities
- the effect of heating materials on the forming and bending process
- scope to adjust equipment parameters and related effect on outcome
- safe work procedures including awareness of health and safety hazards related to the operation of forming, bending and shaping equipment
- housekeeping standards for the work area

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify forming, bending and shaping requirements • select, fit and use personal protective clothing and/or equipment • mark out and produce simple templates • position or feed material according to equipment requirements • set up, adjust, operate and shut down equipment • produce formed and/or shaped material to meet job specification • confirm that the formed and/or shaped material meets specification
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Forming, bending and shaping equipment • Relevant measuring instrumentation • Materials to be formed, bent and/or shaped • Drawings, templates and specifications as required • Operating procedures and related advice on equipment/instrumentation operation • Personal protective clothing and equipment • Housekeeping standards and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Range of shapes and products</p>	<p>The range of shapes and products formed may include</p> <ul style="list-style-type: none"> • pipes • cylinders • cones • angles • ductwork • tubular shapes including hand rails and pipes.
<p>Materials</p>	<p>Materials may include ferrous, non-ferrous and non-metallic substances.</p>
<p>Forming processes</p>	<p>Forming processes may be hot or cold.</p>
<p>Tools and equipment</p>	<p>Tools and equipment may include</p> <ul style="list-style-type: none"> • presses • shapers • benders • drop hammers.
<p>Measuring instrumentation</p>	<p>Measuring instrumentation may include</p> <ul style="list-style-type: none"> • dividers • trammels • rulers.
<p>Pre-operational checks</p>	<p>Pre-operational checks may include</p> <ul style="list-style-type: none"> • confirming that safety guards are in place • equipment is operational • other pre-start checks as required by workplace procedure.

Teamwork	Work may require the ability to work within a team environment.
-----------------	---

Unit Sector(s)

Sugar Milling

FDFSUG231A Undertake simple fabrication

Modification History

New Unit based on *SUGSUSF2A Undertake simple fabrication*.

Unit Descriptor

This unit describes the outcomes required to carry out fabrication associated general jobbing work. A person who has achieved competence in *MEM05011C Assemble, fabricate components* or equivalent is recognised as competent in this sugar milling unit.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for assembly of parts	1.1 Fabrication requirements are identified 1.2 Appropriate fabrication method is selected 1.3 Required materials and equipment are identified and collected 1.4 Materials are prepared for fabrication
2 Assemble fabricated components	2.1 Components are correctly positioned 2.2 Component positioning is checked against specification 2.3 Components are fixed using appropriate fixing method 2.4 Assembly is checked to confirm conformance to specification

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- identify fabrication requirements - this may involve interpretation of technical drawings and sketches or be based on measurements
- select, fit and use personal protective clothing and/or equipment
- identify and obtain the required components, equipment and measuring instrumentation
- use appropriate equipment to position components ready for joining
- check accuracy of component position using measuring instruments as required
- prepare ends for joining
- identify and correct unacceptable component assembly where appropriate
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- purpose and basic principles of fabrication including knowledge of methods used to assemble and fix components and basic understanding of the effects of distortion on fabricated components
- safe work procedures including awareness of health and safety hazards
- use of equipment to position components to meet assembly requirements
- use of instrumentation to achieve accurate measures
- methods used to prepare ends for joining
- appropriate joining method
- typical defects that can occur given the assembly and fabrication methods used
- options for correcting out-of-tolerance fabrication
- housekeeping standards for the work area

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify fabrication requirements • select, fit and use personal protective clothing and/or equipment • identify and obtain the required components, equipment and measuring instrumentation • check accuracy of component position • prepare ends for joining • identify and correct unacceptable component assembly where appropriate
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Fabrication equipment • Relevant measuring instrumentation • Components to be fabricated • Drawings, sketches and specifications as required • Operating procedures and related advice on equipment/instrumentation operation • Personal protective clothing and equipment • Housekeeping standards and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
<p>Fabricated components</p>	<p>Components may include general fabricated components in plate, pipe and section or sheet to form 90° or 45° angles or angles formed using pre-constructed jigs.</p> <p>Typical fixing/joining methods are by welding or screwing.</p>
<p>Materials for fabrication</p>	<p>Materials may include ferrous, non-ferrous and non-metallic substances.</p>
<p>Measuring instrumentation</p>	<p>Measuring instrumentation may include</p> <ul style="list-style-type: none"> • squares • line levels • rulers • spirit levels.
<p>Teamwork</p>	<p>Work may require the ability to work within a team environment.</p>

Unit Sector(s)

Sugar Milling

FDFSUG301A Drive a master-slave locomotive

Modification History

New Unit based on *SUGTDMS3A Drive a master-slave locomotive*.

Unit Descriptor

This unit describes the outcomes required to drive a master-slave locomotive.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFSUG206A Drive a cane locomotive

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare and connect the slave locomotive for operation	1.1 Personal protective clothing and equipment is selected and used 1.2 Health and safety hazards / maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures 1.3 Workplace records are checked to confirm operational status 1.4 The remote control system is set in accordance with workplace procedures and manufacturer's specifications 1.5 Slave locomotives are prepared and required operating mode is selected 1.6 Pre-start checks are conducted
2 Prepare and connect the master locomotive	2.1 Confirm that system is in link mode 2.2 Check control system and conduct system self-test to confirm that the system is operating effectively 2.3 Confirm braking system is operating effectively 2.4 Total control of the system is established and confirmed 2.5 Pre-departure tests are conducted to confirm control system and locomotive equipment meets operating standard 2.6 Front and rear train consists are coupled safely to form one train
3 Start, operate and monitor locomotive	3.1 Master-slave locomotives are operated in accordance with workplace procedures and manufacturer's specifications to meet transport requirements 3.2 Condition of locomotive equipment is monitored to maintain optimum operating condition and identify faults or defects 3.3 Faults are assessed to determine risk of injury to personnel or damage to equipment 3.4 Corrective action is taken in accordance with workplace procedures in response to OHS hazards, abnormal or unacceptable equipment condition or performance 3.5 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations 3.6 Housekeeping standards are maintained
4 Prepare for shift handover	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Changeover drivers are aware of locomotive and related equipment status, track conditions and incidents at completion of handover
5 Shut down locomotive	5.1 Shutdown procedures for master and slave locomotives are followed according workplace procedures

ELEMENT	PERFORMANCE CRITERIA
6 Complete work	<p>5.2 Shut down sequence is confirmed and complete and locomotives are secured in accordance with workplace procedures</p> <p>6.1 Workplace information is recorded according to workplace recording requirements</p> <p>6.2 Plant and equipment are cleaned and stored/parked as required</p> <p>6.3 Defects and faults are identified and reported according to workplace procedures</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information such as running slips to identify driving requirements
- select, fit and use personal protective clothing and/or equipment
- prepare the master and slave locomotive systems and operating settings including following procedures to prepare each unit, conducting visual inspections of equipment, pre-start checks and warm up procedures, and pre-departure checks and coupling of train components
- operate the master-slave locomotive and associated equipment according to work procedure to achieve work requirements including demonstrating full control of both locomotives
- monitor locomotive and equipment condition including monitoring operating status of both locomotives and related equipment and monitoring condition of bins in the rake
- take corrective action in response to abnormal or unacceptable performance of control systems or operating equipment
- assess equipment faults to determine appropriate corrective action
- follow procedure to notify a locomotive breakdown
- communicate with the traffic officer and rail personnel as required
- use appropriate communication methods and equipment
- maintain workplace records
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to driving a locomotive and associated control measures.
- purpose and limitations of protective clothing and equipment
- functions and basic operating principles of master and slave locomotive operating equipment
- purpose of the master and slave locomotives in controlling the train and operating principles of all instruments and controls
- safe operating capacities of equipment
- typical faults that can occur when operating a locomotive in a master-slave configuration including the ability to assess severity and risk in order to determine appropriate corrective action
- communication procedures, methods and equipment including an understanding of warning devices and signals
- procedures for responding to emergency situations including use of two-way radio system to report emergencies
- environmental issues and controls

- requirements to liaise/advise related work areas and personnel
- housekeeping standards
- reporting and recording systems and responsibilities

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • prepare the master and slave locomotive systems and operating settings • operate the master-slave locomotive and associated equipment • monitor locomotive and equipment condition • take corrective action in response to abnormal or unacceptable performance of control systems or operating equipment • assess equipment faults to determine appropriate corrective action • follow procedure to notify a locomotive breakdown • communicate with the traffic officer and rail personnel as required
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Master and slave locomotives and related equipment such as brake vans • Cane railway system • Relevant services and equipment required to carry out inspections, checks and monitoring • Workplace information including running slips and daily schedule, to advise of driving requirements • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures
Method of assessment	Other units of competency relevant to the work role should be assessed in conjunction with this unit.
Guidance information for assessment	To ensure consistency in one's performance, competency

	should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.
Workplace information	Workplace information can include <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • manufacturer's specifications.
Workplace documentation	Documentation and recording requirements may include: <ul style="list-style-type: none"> • marshalling strategy • documentation relating to the traffic schedule such as run slips • loco running sheets and log books.
Cane transport networks	Cane transport network features and their characteristics may include: <ul style="list-style-type: none"> • main and branch lines • yards, sidings • loops • dump points • pads.
Information systems	Information systems may be print or screen based.
Master-slave locomotive equipment	A master-slave configuration describes any mechanism and operating system that allows control of one motive power unit by another motive power unit which forms part of the same train. The slave or remote unit is not operated freely, unattached from the master or lead locomotive. Master-slave locomotives may be used within a yard for the purpose of marshalling and shunting and on running lines.
Hazards	Hazards include working with moving machinery, manual

	handling and working in exposed conditions.
Teamwork	Work may require the ability to work within a team environment.
Communication methods	Communication methods include: <ul style="list-style-type: none">• use of two-way radios used in accordance with workplace requirements and state authority protocols and• hand and audible signalling.

Unit Sector(s)

Sugar Milling

FDFSUG302A Control cane traffic movements

Modification History

New Unit based on *SUGTCCT3A Control cane traffic movements*.

Unit Descriptor

This unit describes the outcomes required to control movements on the cane railway delivery/transport network to ensure safe train separation, efficient running of the traffic system and continuous, fresh supply of cane to the mill. It may also include controlling truck movements.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for operation	<p>1.1 Participate in shift handover process to identify status and occurrences affecting traffic control</p> <p>1.2 Confirm status of traffic activities on the cane railway network and in the empty and full yards</p> <p>1.3 Establish communication with drivers, crews and other relevant personnel</p> <p>1.4 Housekeeping standards are maintained</p>
2 Implement schedule	<p>2.1 Train movement instructions are issued to maintain safe operations</p> <p>2.2 The communication system is used to provide timely information to relevant personnel</p>
3 Issue train clearances to maintain train separation	<p>3.1 Clearance instructions are issued</p> <p>3.2 Point-to-point clearances are issued</p>
4 Maintain train separation	<p>4.1 Access to the rail network is controlled, including access by drivers, navvies, contractors, harvesting crews and other third parties</p> <p>4.2 Train passing is arranged and co-ordinated in accordance with workplace procedures</p> <p>4.3 Transportation movements are managed using rail network procedures and systems</p>
5 Maintain efficient running	<p>5.1 Transport departures and arrivals are co-ordinated and adjusted</p> <p>5.2 Train running times are monitored and opportunities to improve efficiency are identified and acted upon</p> <p>5.3 Train loads are maximized within load limits</p> <p>5.4 Train passing is managed to minimize delays and maintain safe operations</p> <p>5.5 Overall operating efficiencies are monitored and optimised</p>
6 Complete traffic control operations	<p>6.1 Train movements and related workplace information is recorded according to workplace recording requirements</p> <p>6.2 Recording systems and advice reflects accurate information at the time of handover</p> <p>6.3 Handover is carried out according to workplace procedure</p> <p>6.4 Traffic controllers are aware of system and related equipment status at completion of handover</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- receive information on status of all traffic movements and occurrences on the cane rail network
- confirm status of traffic movements including location of all trains and maintenance crews
- operate communication system to provide relevant, timely instructions and advice to all relevant personnel including factory, transportation personnel, farmers and harvester operators
- demonstrate procedures for controlling train movements including issuing clearances, arranging and co-ordinating train crossings, arrivals and departures
- apply procedure to calculate efficient loads within equipment capacities and rail system tolerances
- use systems and tools such as mimic boards, control sheets and train graphs to monitor and maintain safe operations and schedules
- maintain workplace records in a timely manner so they reflect up-to-date information including the use of mimic boards
- prepare for and conduct handover including ensuring that all records are accurate and updated and that incoming traffic controllers are aware of traffic system status including hazards or incidents

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and industry codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to work responsibilities and associated control measures
- factors that impact on the scheduling of traffic movements including an understanding of the relationship between these factors
- procedures for co-ordinating locomotive and/or truck departures/arrivals and train crossings
- procedures for recording information including operating procedures for using mimic boards and physical records such as control sheets
- relevant personnel and factory departments to be notified of traffic movement instructions and advice including an understanding of the information relevant to each group/person
- communication systems, protocols and standards when using 2-way radios and handheld transceivers
- detailed information on maintaining mimic board information
- awareness of conditions that are unusual or unplanned and related options for response including an understanding of implications of different options for maintaining safe and efficient traffic movement
- factors that impact on efficient performance including:

- labour
- crib breaks
- holding locos
- waiting time (last bin)
- fuel use
- loads
- scheduled cleaning and programmed maintenance

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • receive information on status of traffic movements and occurrences • confirm status of traffic movements • operate communication systems to provide advice to personnel • demonstrate procedures for controlling train movements • apply procedure to calculate efficient loads • maintain workplace records • prepare for and conduct handover
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Transport system and associated information and communication systems and equipment • Relevant codes of practice and industry standards • Workplace information required to determine and monitor safe traffic movements on the cane transport network. This includes provision of a traffic schedule against which to assess, adjust and monitor work progress against schedule • Operating procedures related to work responsibilities • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of Practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • master schedule • daily schedule • bin allotments • mill crushing rate • harvesting roster • train running slips • maintenance advice
<p>Network systems</p>	<p>Network systems can include</p> <ul style="list-style-type: none"> • block sections and check points • multiple trains in block • mimic board • train graphs • control sheets.
<p>Traffic movement information</p>	<p>This is done at commencement of shift and may include use of verbal advice, log books, incident reports, mimic boards and related documentation.</p>
<p>Factors impacting on traffic scheduling</p>	<p>Factors can include:</p> <ul style="list-style-type: none"> • mill status and current crush rate • next planned mill stop • timing of crib breaks • availability of empty bins, taking into account mixed bin fleet if appropriate • availability of full-yard space • availability of empty-yard space

	<ul style="list-style-type: none"> • contractor/harvester rates • siding status • track infrastructure condition • rolling stock condition • transport schedule amendments
Workplace information	<p>Information provided includes</p> <ul style="list-style-type: none"> • instructions • running information including schedule changes for pickups and deliveries • maintenance status including location of non-operational locomotives and damaged bins • other hazards and all other information affecting cane transportation operations
Teamwork	<p>Work may require the ability to work within a team environment.</p>
Communication methods	<p>Communication methods include use of two-way radios used in accordance with workplace requirements and state authority protocols.</p>

Unit Sector(s)

Sugar Milling

FDFSUG303A Adjust cane delivery schedules to meet daily milling requirements

Modification History

New Unit based on *SUGTASD3A Adjust schedule(s) to meet daily workplace requirements*.

Unit Descriptor

This unit describes the outcomes required to adjust schedules to meet daily sugar mill operational requirements

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify daily factory requirements for cane supply	1.1 Workplace information are accessed 1.2 Factors that impact on cane supply are identified
2 Calculate zero hour	2.1 Zero hour is calculated to take account of daily variables 2.2 Relevant personnel are informed of zero hour
3 Amend daily bin allotment and bin allocations	3.1 Bin allotment requirements are determined 3.2 Daily bin allotment and bin allocations are calculated based on amended requirements 3.3 Schedule for bin allocation and loco runs to harvest groups is amended to meet requirements 3.4 Amended schedule is documented and submitted for approval in accordance with workplace procedures
4 Monitor supply and demand to maintain and adjust schedule	4.1 Transport departures and arrivals are co-ordinated and adjusted to meet schedule requirements 4.2 Regular two-way communication with locomotive drivers and harvester operators is used to maintain schedules and safe operations 4.3 Cane stock and deliveries (supply) are monitored against schedule 4.4 Variations between supply and schedule are identified and corrective action is taken 4.5 Resource implications of amended schedules are identified and resources are accessed to meet requirements 4.6 Progress against schedule is monitored

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- apply workplace information to calculate zero hour according to workplace procedure
- communicate zero hour to affected personnel
- amend daily schedule bin allotments and bin allocations to take account of variables affecting achievement of schedule
- monitor work progress and respond to update schedule as required
- respond to unplanned events to minimise disruption and optimise efficiency
- use communication systems and equipment to inform affected personnel of changes to schedule
- confirm that resources and personnel are available to meet amended schedule and if not, take action to secure requirements
- demonstrate workplace procedures for co-ordinating transport departures and arrivals to meet schedule requirements
- demonstrate workplace procedures for reallocating cane bin deliveries to harvesters in cases of factory/harvester breakdowns
- maintain workplace records and submit amendments for approval as required by workplace procedures

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to work responsibilities and associated control measures
- work schedule planning including the inter-relationships such as:
 - planned crushing rate
 - current stocks (yards and sidings)
 - yard and siding capacities
 - average bin weights
 - harvesting rosters
 - cut-to-crush delays
 - loco loads and performance
 - bin fleet size and availability
 - rail network capacity
 - labour requirements and availability
- purpose and procedure for calculating zero hour
- purpose and use of a computerized traffic systems

- factors that can affect the calculation of zero hour including:
 - factory performance including planned and unplanned mill stops
 - weather
 - transport system delays including locomotive/motor truck breakdown
 - availability of empty bins, taking into account mixed bin fleet if appropriate
 - availability of full-yard space
 - availability of empty-yard space
 - siding status
 - track infrastructure condition
 - harvester failure
- relevant personnel and factory departments to be notified of zero hour and related amendments to schedule including an understanding of the information relevant to each group/person
- standard allocation of bins to a group and procedure for adjusting allocations
- communication systems, protocols and standards when using 2-way radios
- awareness of conditions that are unusual or unplanned and related options for response including an understanding of implications of different options for maintaining the continuous and efficient supply of cane
- factors that impact on efficient performance such as:
 - labour
 - crib breaks
 - holding locos
 - waiting time (last bin)
 - fuel use
 - loads
 - scheduled cleaning and programmed maintenance
- relevant OH&S and environmental requirements
- procedures for responding to emergency situations

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • apply workplace information to calculate zero hour • amend daily schedule bin allotments and bin allocations • monitor work progress and respond to update schedule • use communication systems and equipment • confirm resources and personnel are available to meet amended schedule • demonstrate workplace procedures for reallocating cane bin deliveries to harvesters • maintain workplace records
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Transport system and associated information and communication systems and equipment • Relevant codes of practice and industry standards • Workplace information required to assess, adjust and monitor work progress against schedule • Operating procedures related to work responsibilities • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of Practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.</p>
<p>Workplace information</p>	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • master schedule • bin allotments • mill crushing rates • schedules and harvesting rosters
<p>Teamwork</p>	<p>Work may require the ability to work within a team environment.</p>
<p>Communication methods</p>	<p>Communication methods include:</p> <ul style="list-style-type: none"> • use of two-way radios used in accordance with workplace requirements and state authority protocols.

Unit Sector(s)

Sugar Milling

FDFSUG304A Operate a boiler intermediate

Modification History

New Unit based on *SUGPOBI3A Operate a boiler - intermediate*.

Unit Descriptor

This unit describes the outcomes required for continuous and short term operation of an intermediate boiler and for start-up and shut down after a prolonged break. This unit is based on the boiler competency standards from the Worksafe Australia Standards for Users and Operators of Industrial Equipment NOHSC 1006 (2001). It should be selected where boiler operation is a certificated occupation

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the boiler for operation	1.1 Health and safety hazards/maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures 1.2 The boiler is purged according to workplace procedure 1.3 Services are confirmed and available 1.4 Pre-operational checks are conducted to confirm operational status of boiler and related equipment
2 Start and monitor boiler operation	2.1 The boiler is started and brought on line safely according to workplace procedures and manufacturer's specifications 2.2 Plant is operated within limits of manufacturer's specifications to meet workplace requirements 2.3 Equipment is monitored to confirm operating condition 2.4 Water quality is tested and adjusted as required 2.5 Sluice water is circulated to remove ash from boiler according to specification 2.6 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 Operating data and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to Hazards, out-of-specification test results and/or plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover boiler operations	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Boiler operators are aware of boiler status and related equipment at completion of handover
5 Carry out an operational shutdown	5.1 The boiler is shut down according to workplace procedures and manufacturer's recommendations 5.2 Maintenance requirements are identified and reported according to workplace reporting procedure
6 Shutdown the boiler and prepare for an internal inspection	6.1 The boiler is shut down according to workplace procedures and manufacturer's recommendations 6.2 The boiler is cleaned internally and externally according to workplace procedures and manufacturer's recommendations 6.3 Valves and fittings are removed in preparation for maintenance
7 Store boiler in	7.1 The boiler is stored in the appropriate storage mode according to

ELEMENT	PERFORMANCE CRITERIA
shutdown mode	workplace procedures and manufacturer's recommendations
8 Record information	8.1 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information on combustion and operating requirements
- select, fit and use personal protective clothing and/or equipment
- identify and report hazards and potential hazards in the work area
- confirm status of boiler and related equipment including the fuel supply system, ash removal and services
- demonstrate purge procedure
- conduct pre-start checks including checking:
 - feed water supply and system
 - fuel supply system
 - fans and dampers
 - inspection doors
 - boiler valves - operation and position
 - combustion air supply system
 - boiler water level
- liaise with other work areas to advise of boiler status
- demonstrate set up and start up procedures in both manual and automatic modes
- monitor boiler operation including monitoring:
 - steam reticulation line pressure
 - boiler steam pressure
 - steam supply/usage
 - condensate tank level
 - bagasse levels
 - feedwater levels and pressure
 - fuel levels
 - boiler load
 - water quality
 - furnace pressure
 - ash pit level and removal system
 - balance draft system
 - superheater temperature
 - drum levels
 - equipment condition
- conduct water quality test
- take corrective action in response to out-of-specification results

- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of all relevant issues prior to completing handover
- demonstrate procedure to take boiler off line
- demonstrate procedure to shut down and clean the boiler
- demonstrate removal of valves and fittings to prepare the boiler for inspection
- demonstrate procedure to store boiler
- demonstrate emergency procedures and related re-start including use of emergency fuel supply
- maintain workplace records
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to boiler operation and associated control measures
- purpose and limitations of protective clothing and equipment
- hierarchy of hazard control measures
- duty of care of the boiler operator
- purpose and basic principles of combustion and boiler operation including principles of heat transfer and properties of steam
- boiler system layout and steam cycle
- the purpose of purging a boiler
- the effect of fuel quality on boiler operation
- impact of ash removal on efficient boiler operation and impact of sluice water flow
- relationship to other processes including an understanding of the impact of sudden load changes on boiler pressure and plant operation
- purpose and limitations of protective clothing and equipment
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- water quality test procedures
- typical causes of water/condensate contamination and corrective action required
- equipment purpose and basic operating principles including high pressure feed pumps, fuel supply system and dual fuel systems as required by boiler type
- operating requirements and parameters
- procedures for responding to emergency situations including safe shutdown procedure
- handover and long term shut down and storage procedures
- cleaning procedures and grate dumping
- environmental issues and controls including an understanding of sluice water usage
- requirements to liaise/advise related work areas
- housekeeping standards for the work area

- reporting and recording systems including both statutory and workplace requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p> <p>Boiler operators holding a ticket in Intermediate Boiler Operation from the relevant state regulatory authority will be granted equivalence in this unit SUG305A Operate a boiler - intermediate for the purpose of issuing a qualification.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm status of boiler and related equipment including the fuel supply system, ash removal and services • demonstrate purge procedure • conduct pre-start checks • liaise with other work areas to advise of boiler status • demonstrate set up and start up procedures in both manual and automatic modes • conduct water quality test • take corrective action in response to out-of-specification results • report and/or record corrective action • demonstrate emergency procedures and related re-start
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Boiler and related equipment. This includes fuel supply, grate cleaning and ash removal systems • Relevant codes and standards • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This</p>

	may include: <ul style="list-style-type: none">• FDFOP2030A Operate a process control interface
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.</p>
Codes of Practice	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.</p>
Workplace information	<p>Workplace information can include</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • manufacturer's specifications
Boilers [intermediate]	<p>Boiler (intermediate) with any or all of the following features:</p> <ul style="list-style-type: none"> • modulating combustion air supply • modulating heat source • superheaters and • economisers. <p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems</p>
Hazards	<p>Hazards typically include</p> <ul style="list-style-type: none"> • working around hot surfaces, • manual handling, • steam, hot gasses and fuel leaks
Services	<p>Services can include</p> <ul style="list-style-type: none"> • fuel supply of bagasse, coal, gas, oil or other fuel types, steam, • mill and instrumentation air, • cooling water, • general mill water supply and • cooling water.
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • conducting relevant pre-start checks

	<ul style="list-style-type: none">• confirming that cleaning standards are met• all safety guards and manholes are in place and• equipment is operational
Cleaning	Internal cleaning is carried out in accordance with statutory requirements regarding confined space entry and does not typically include chemical cleaning.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling

FDFSUG305A Operate a boiler advanced

Modification History

New Unit based on *SUGPOBA3A Operate a boiler - advanced*.

Unit Descriptor

This unit describes the outcomes required for continuous and short term operation of an advanced boiler and for start-up and shut down after a prolonged break. Boiler operators holding a ticket in Advance Boiler Operation from the relevant state regulatory authority will be granted equivalence in this unit *FDFSUG306A Operate a boiler - advanced* for the purpose of issuing a qualification

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

General workplace legislative and regulatory requirements apply to this unit; however there are no specific licensing or certification requirements at the time of publication.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the boiler for operation	1.1 Health and safety hazards/maintenance requirements are identified and reported to appropriate personnel according to workplace reporting procedures 1.2 The boiler is purged according to workplace procedure 1.3 Services are confirmed and available 1.4 Pre-operational checks are conducted to confirm operational status of boiler and related equipment
2 Start and monitor boiler operation	2.1 The boiler is started and brought on line safely according to workplace procedures and manufacturer's specifications 2.2 Plant is operated within limits of manufacturer's specifications to meet workplace requirements 2.3 Equipment is monitored to confirm operating condition 2.4 Water quality is tested and adjusted as required 2.5 Sluice water is circulated to remove ash from boiler according to specification 2.6 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 Operating data and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to Hazards, out-of-specification test results and/or plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover boiler operations	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Boiler operators are aware of boiler status and related equipment at completion of handover
5 Carry out an operational shutdown	5.1 The boiler is shut down according to workplace procedures and manufacturer's recommendations 5.2 Maintenance requirements are identified and reported according to workplace reporting procedure
6 Shutdown the boiler and prepare for an internal inspection	6.1 The boiler is shut down according to workplace procedures and manufacturer's recommendations 6.2 The boiler is cleaned internally and externally according to workplace procedures and manufacturer's recommendations 6.3 Valves and fittings are removed in preparation for maintenance
7 Store boiler in	7.1 The boiler is stored in the appropriate storage mode according to

ELEMENT	PERFORMANCE CRITERIA
shutdown mode	workplace procedures and manufacturer's recommendations
8 Record information	8.1 Workplace information is recorded according to workplace recording requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information on combustion and operating requirements
- select, fit and use personal protective clothing and/or equipment
- identify and report hazards and potential hazards in the work area
- confirm status of boiler and related equipment including the fuel supply system, ash removal and services
- demonstrate purge procedure
- conduct pre-start checks including checking:
 - feed water supply and system
 - fuel supply system
 - fans and dampers
 - inspection doors
 - boiler valves - operation and position
 - combustion air supply system
 - boiler water level
- liaise with other work areas to advise of boiler status
- demonstrate set up and start up procedures in both manual and automatic modes
- monitor boiler operation including monitoring:
 - steam reticulation line pressure
 - boiler steam pressure
 - steam supply/usage
 - condensate tank level
 - bagasse levels
 - feedwater levels and pressure
 - fuel levels
 - boiler load
 - water quality
 - furnace pressure
 - ash pit level and removal system
 - balance draft system
 - superheater temperature
 - drum levels
 - equipment condition
- conduct water quality test
- take corrective action in response to out-of-specification results

- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of all relevant issues prior to completing handover
- demonstrate procedure to take boiler off line
- demonstrate procedure to shut down and clean the boiler
- demonstrate removal of valves and fittings to prepare the boiler for inspection
- demonstrate procedure to store boiler
- demonstrate emergency procedures and related re-start including use of emergency fuel supply
- maintain workplace records
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to boiler operation and associated control measures
- purpose and limitations of protective clothing and equipment
- hierarchy of hazard control measures
- duty of care of the boiler operator
- purpose and basic principles of combustion and boiler operation including principles of heat transfer and properties of steam
- boiler system layout and steam cycle
- the purpose of purging a boiler
- the effect of fuel quality on boiler operation
- impact of ash removal on efficient boiler operation and impact of sluice water flow
- relationship to other processes including an understanding of the impact of sudden load changes on boiler pressure and plant operation
- purpose and limitations of protective clothing and equipment
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- water quality test procedures
- typical causes of water/condensate contamination and corrective action required
- equipment purpose and basic operating principles including high pressure feed pumps, fuel supply system and dual fuel systems as required by boiler type
- operating requirements and parameters
- procedures for responding to emergency situations including safe shutdown procedure
- handover and long term shut down and storage procedures
- cleaning procedures and grate dumping
- environmental issues and controls including an understanding of sluice water usage.
- requirements to liaise/advise related work areas
- housekeeping standards for the work area

- reporting and recording systems including both statutory and workplace requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • confirm status of boiler and related equipment including the fuel supply system, ash removal and services • demonstrate purge procedure • conduct pre-start checks • liaise with other work areas to advise of boiler status • demonstrate set up and start up procedures in both manual and automatic modes • conduct water quality test • take corrective action in response to out-of-specification results • report and/or record corrective action • demonstrate emergency procedures and related re-start
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Boiler and related equipment. This includes fuel supply, grate cleaning and ash removal systems • Relevant codes and standards • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Workplace information recording systems, requirements and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit. This may include:</p> <ul style="list-style-type: none"> • FDFOP2030A Operate a process control interface
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.
--	--

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.</p>
Codes of Practice	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice.</p>
Workplace information	<p>Workplace information can include</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • manufacturer's specifications
Boilers [advanced]	<p>Boiler (advanced) covers boilers with any or all of the following features:</p> <ul style="list-style-type: none"> • modulating combustion air supply • modulating heat source • superheaters • and economisers <p>However advanced boilers must also have multiple fuel types which may be fired simultaneously during normal operation. This does not include boilers that change fuel type during start sequence.</p>
Equipment operation and monitoring	<p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>
Hazards	<p>Hazards typically include</p> <ul style="list-style-type: none"> • working around hot surfaces, • manual handling, • steam, hot gasses and fuel leaks
Services	<p>Services can include</p> <ul style="list-style-type: none"> • fuel supply of bagasse, coal, gas, oil or other fuel types • steam • mill and instrumentation air • cooling water • general mill water supply and

	<ul style="list-style-type: none">• cooling water
Equipment status	Confirming equipment status involves <ul style="list-style-type: none">• conducting relevant pre-start checks• confirming that housekeeping standards are met, all safety guards are in place and• equipment is operational
Internal cleaning	Internal cleaning is carried out in accordance with statutory requirements regarding confined space entry and does not typically include chemical cleaning.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling

FDFSUG306A Monitor a sugar mill powerhouse

Modification History

New Unit based on *SUGPMPH3A Monitor a powerhouse*.

Unit Descriptor

This unit describes the outcomes required to operate and monitor one or more turbines with attached alternators supplying factory power. This role is typically carried out in liaison with an electrician.

Application of the Unit

This unit has application in the sugar milling industry and applies to both continuous and short term operation including start-up and shut down after a prolonged break.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFSUG217A Operate a turbine

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to operate the powerhouse	1.1 Personal protective clothing and equipment is selected and used 1.2 Run warm up sequence of turbines and alternator/s in preparation for handover from local powerhouse to powerhouse consul
2 Monitor powerhouse operation	2.1 Powerhouse output is monitored against site requirements 2.2 Equipment is monitored to confirm operating condition 2.3 The workplace meets housekeeping standards
3 Analyse and respond to abnormal performance	3.1 Operating data and plant operating conditions are analysed to identify causes of abnormal performance 3.2 Corrective action is taken in accordance with workplace procedures in response to OHS hazards and abnormal plant performance 3.3 Emergency procedures are implemented as required according to workplace procedures and manufacturer's recommendations
4 Handover powerhouse operation	4.1 Workplace records are maintained in accordance with statutory requirements and workplace procedures 4.2 Handover is carried out according to workplace procedure 4.3 Powerhouse operators are aware of powerhouse status and related equipment at completion of handover
5 Shutdown the powerhouse	5.1 The powerhouse is shut down according to workplace procedures and manufacturer's recommendations 5.2 The powerhouse is prepared for storage in shut down mode 5.3 Maintenance requirements are identified and reported

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information on power requirements
- select, fit and use personal protective clothing and/or equipment
- confirm that turbine/s and alternator/s are ready for warm up/operation
- conduct warm up sequence
- liaise with electrician as required to synchronise with external power supply
- handover control to operating consul
- liaise with other work areas to advise of powerhouse status
- demonstrate run up procedures in both manual and automatic modes
- monitor powerhouse operation including monitoring:
 - bearing temperature
 - steam pressure
 - speeds
 - oil flows
 - power factor
 - voltage
 - power frequency
 - equipment condition including noise and vibration
- take corrective action in response to abnormal or unacceptable performance
- report and/or record corrective action as required
- demonstrate shift handover procedure and confirm that replacement operators are aware of equipment status and operating requirements prior to completing handover
- demonstrate emergency trip procedure and related re-start
- record operating information
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- relevant state OHS legislation, standards and codes of practice relating to work responsibilities
- safe work procedures including awareness of health and safety hazards related to powerhouse operation and associated control measures
- hierarchy of hazard control measures
- purpose and limitations of protective clothing and equipment
- purpose and basic principles of power generation including the impact of out of range frequency voltage on equipment operation

- site procedures for the import and export of power
- operating principles of powerhouse and instrumentation components, purpose and operation including the requirement to bar over alternators on start-up, shut down and emergency stops
- basic operating principles of process control where relevant including the relationship between control panels and systems and the physical equipment
- layout of powerhouse including location of overload protection equipment/switches
- methods used to render equipment safe to inspect, maintain and/or clean including lock-out, tag-out and isolation procedures
- operating requirements and parameters
- procedures for responding to emergency situations including safe shutdown procedure
- handover and long term shut down and storage procedures
- environmental issues and controls including controlling oil spillages
- housekeeping standards for the work area
- reporting and recording systems including both statutory and workplace requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information on power requirements • confirm that turbine/s and alternator/s are ready for warm up/operation • conduct warm up sequence • handover control to operating consul • demonstrate run up procedures in both manual and automatic modes • monitor powerhouse operation • take corrective action in response to abnormal or unacceptable performance • demonstrate shift handover procedure • demonstrate emergency trip procedure and related re-start • record operating information
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Turbine with an attached alternator • Relevant codes and standards • Operating procedures and related advice on equipment operation • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Workplace information	Workplace information can include <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) and • manufacturer's specifications
Powerhouse equipment	Equipment includes <ul style="list-style-type: none"> • turbines with attached alternators. <p>Operation and monitoring of equipment and processes typically requires the use of control panels and systems.</p>
Hazards	Hazards typically include working around hot surfaces, manual handling, fuel and steam leaks.
Services	Services may include: <ul style="list-style-type: none"> • steam • water • mill and • instrumentation • air and • power
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or instrumentation based.

Unit Sector(s)

Sugar Milling

FDFSUG307A Perform factory control tests

Modification History

New Unit based on *SUGPFCT3A Perform factory control tests*.

Unit Descriptor

This unit describes the outcomes required to perform tests for factory control. These tests are typically complex and/or non-routine and require interpretation of results within broad guidelines.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for testing	1.1 Testing requirements and methods are identified 1.2 Calibration of test equipment is managed to maintain accurate equipment 1.3 Standard graphs are prepared 1.4 Test chemicals and reagents are prepared and labelled as required for laboratory requirements 1.5 Samples are prepared as required by test method 1.6 Pre-test checks are conducted and recorded according to workplace recording requirements
2 Conduct test	2.1 Conduct test in accordance with test method and test schedule 2.2 Identify and report atypical test results 2.3 Record and communicate test results as required 2.4 Follow procedures to repeat or validate results 2.5 Clean, care for and store equipment as required 2.6 Dispose of waste materials according to workplace procedure
3 Record test data in laboratory information system	3.1 Results are entered into laboratory information systems according to workplace procedure 3.2 Correct data entry errors 3.3 Store and retrieve data in the laboratory information system 3.4 Produce standard and non-standard reports from laboratory information system

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- access workplace information such as the test regime to identify test requirements and methods
- select, fit and use personal protective clothing and/or equipment
- prepare standard graphs and standard chemicals for laboratory use
- manage calibration of test equipment
- handle chemicals safely including following correct handling and preparation procedures and use of appropriate protective clothing and equipment
- demonstrate test procedures according to test schedule and test method
- identify and report any out-of-specification results
- communicate test results to relevant personnel
- maintain stocks of laboratory chemicals and materials
- sort, collect, treat, recycle or dispose of tested materials
- record information in the laboratory information system including ability to enter and edit data, generate standard reports and store information
- maintain work area to meet housekeeping standards

Required knowledge includes:

Knowledge of:

- purpose of the test procedure including a basic knowledge of chemistry and physics principles relating to the tests performed and operating principles of equipment used
- mill operations for interpreting test results including identifying implications of results for mill performance
- awareness of legislative requirements relating to cane payment tests
- terminology relating to the types of tests and related methods used
- safe work procedures including hazards associated with specific test procedures requirements such as working with chemicals and test equipment
- specific test methods/procedures
- typical causes of out-of-specification results and procedure for repeating the analysis
- methods used to plot, analyse and present test data including production of both standard and non-standard reports
- laboratory information system recording and reporting requirements that meet legislative record keeping requirements and workplace requirements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify test requirements and methods • prepare standard graphs and standard chemicals for laboratory use • manage calibration of test equipment • handle chemicals safely • demonstrate test procedures • identify and report any out-of-specification results • communicate test results to relevant personnel • record information in the laboratory information system
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Test equipment, chemicals and reagents and related equipment • Materials to be tested • Test methods and procedures • Personal protective clothing and equipment • Communication systems and equipment • Housekeeping standards and procedures • Sample labelling and recording systems, requirements and procedures • Laboratory recording and reporting system
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of Practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.</p>
<p>Workplace information</p>	<p>Workplace information can include</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • Specifications • test methods and • procedures.
<p>Testing Equipment</p>	<p>Equipment is defined by test method and legislative requirements.</p> <p>Confirming equipment condition may include:</p> <ul style="list-style-type: none"> • conducting calibration procedures. <p>Calibration procedures are routine, documented procedures.</p>
<p>Factory control tests</p>	<p>The types of tests conducted depends on the test equipment and methods used and may include but are not limited to:</p> <ul style="list-style-type: none"> • Sugar - ash, colour, dextran, filterability, reducing sugars, starch, phosphate, grist/grain size • Molasses/massecuite/syrup - true purity by dry substandard and sucrose, HPLC • Cane/bagasse - POC, pol and brix by disintegrator method, fibre by prepared cane method • Clarified juice or ESJ - phosphate, starch • Mud - fibre, insolubles • Boiler water - caustic alkalinity, phosphate, sulphate, hardness, total dissolved solids, sulphate • Effluent - sucrose, BOD, suspended solids • Caustic - concentration

	<ul style="list-style-type: none">• EDTA - concentration and activity• Lime - sucrose soluble alkali
Teamwork	Work may require the ability to work within a team environment
Information systems	Information systems may be print or screen based

Unit Sector(s)

Sugar Milling

FDFSUG308A Analyse and convey workplace information

Modification History

New Unit based on *SUGAECWE3A Analyse and convey workplace information*.

Unit Descriptor

This unit describes the outcomes required to analyse and interpret information. It also involves preparing and presenting information to others. The presentation component of this unit supports the communication requirements for delivering workplace training.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

There are no pre-requisite units for this competency standard.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Manage information	<ul style="list-style-type: none">1.1 Information requirements are identified1.2 Information systems are used to store, retrieve and update information1.3 Consultative processes are used to collect and convey information1.4 Methods used to collect, store, retrieve and convey information are reviewed and improved
2 Analyse information	<ul style="list-style-type: none">2.1 Information is stored and collected in a format suitable for analysis and interpretation2.2 Information collection is timely and relevant to the needs of individuals and teams2.3 Information is collected, analysed and interpreted
3 Present information	<ul style="list-style-type: none">3.1 Information is effectively communicated to individuals and groups3.2 Communication takes into account social and cultural differences

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- facilitate consultative processes
- use information storage and retrieval systems to access store and update information
- select appropriate methods to communicate with different audiences in the workplace
- collect information in appropriate format
- analyse and interpret information
- select appropriate presentation methods to convey information for different purposes
- structure information in a logical sequence
- recommend improvements to information management practices

Required knowledge include:

Knowledge of:

- information recording, storage and retrieval systems
- consultative and group processes
- data collection and analysis techniques as required
- meeting procedures
- presentation techniques

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • exchange work-related information • ask questions to inform work practice • apply work information to work practice.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Opportunities to interact with others using typical workplace communication processes • Typical group forums which can include work groups and committees • Typical workplace information • Standard forms and equipment (as required) for recording workplace information • Information storage and retrieval systems
<p>Method of assessment</p>	<p>Other units of competency relevant to the work role should be assessed in conjunction with this unit.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company policies and procedures, manufacturer's recommendations, legislative requirements, codes of practice and industrial awards and agreements.
Codes of Practice	Codes of practice include the Sugar Milling Operations Industry Code of Practice.
Communication content	Subjects for communication may be of a general, procedural or technical nature. They can also include providing feedback to individuals on work performance and discussing issues which may be of a sensitive and/or confidential nature.
Communication language	Every day workplace language is used. This may include technical terms.
Communication systems	Communication systems reflect the culture of the workplace and the workforce
Communication processes	Interactive communication processes include active listening, constructive feedback, negotiation and conflict resolution.
Workplace information	Information may be presented verbally, in written and screen-based forms. It can also include technical drawings, diagrams and graphs.
Data analysis	Data analysis can include techniques appropriate to work responsibilities such as statistical analysis, troubleshooting and problem solving and planning
Teamwork	Work may require the ability to work within a team environment.
Group processes	Group processes may include formal meeting procedures and informal group processes.

Unit Sector(s)

Sugar Milling

FDFSUG309A Operate a sugar system

Modification History

New Unit based on *SUGPOSS3A Operate a system (sugar)*.

Unit Descriptor

This unit describes the outcomes required to prepare and operate an integrated group of sugar milling sub-systems or unit operations. Typical systems consist of at least three connected unit operations such as preparation, crushing and power generation.

Application of the Unit

This unit has application in the sugar milling industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

The person being assessed in this unit of competence must be competent in the relevant technical units that form the system.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare the system for operation	1.1 Supply of materials is confirmed to meet production requirements 1.2 Work area is prepared for operation 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use
2 Operate and monitor the system	2.1 The system is started up according to company procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 System is operated to optimise performance for the current factory conditions 2.4 Equipment is monitored to confirm operating condition 2.5 System outputs meet specification
3 Handover the system	3.1 Workplace records are maintained in accordance with workplace procedures 3.2 Handover is carried out according to workplace procedure 3.3 System operators are aware of system and related equipment status at completion of handover
4 Shut down the system	4.1 The appropriate shut down procedure is identified 4.2 Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures 4.3 The system is shut down according to workplace procedures 4.4 The system is prepared for storage in shut down mode 4.5 Maintenance requirements are identified and addressed
5 Contribute to continuous improvement of the system	5.1 Opportunities for improvement are identified and investigated 5.2 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Ability to:

- liaise with relevant work areas to confirm or secure necessary materials, services, equipment and labour to meet production requirements
- confirm that all equipment within the system meets operating standards, all safety guards are in place and equipment is ready for operation
- confirm that materials have been cleared for use
- monitor implementation of set-up and start-up procedures including monitoring the use of check sheets by others
- monitor observance of work procedures and systems
- monitor materials flow and work-in-progress through the system
- confirm that the system operates within specified parameters and control points are monitored
- determine responses to out-of-specification results or non-conformance within level of responsibility
- coordinate batch/product changeovers
- communicate information effectively
- plan maintenance and cleaning procedures to minimise disruption
- monitor operating efficiencies of the system and investigate, resolve and/or report problems
- review and maintain procedures to support system improvements

Required knowledge includes:

Knowledge of:

- purpose and principles of the system including optimisation
- equipment purpose and operation including an understanding of process control systems where used
- technical knowledge of product characteristics and processing requirements for varying inputs.
- codes and legislation relating to product and packaging requirements
- equipment calibration schedule and responsibilities
- type and purpose of sampling and testing conducted
- related work areas and departments
- relevant procedures, specifications and operating parameters for the system and the individual units
- relevant systems and legislative responsibilities in areas such as human resources, quality, occupational health and safety and environmental management
- industrial awards and agreements relating to system operation
- hazards, risks, controls and methods for monitoring processes within the system
- maintenance and cleaning requirements of equipment in system

- process improvement procedures and related consultative arrangements
- troubleshooting procedures and problem solving techniques
- recording requirements and procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • liaise with relevant work areas • confirm that all equipment within the system meets operating standards • monitor implementation of set-up and start-up procedures • monitor observance of work procedures and systems • monitor materials flow and work-in-progress through the system • confirm that the system operates within specified parameters and control points are monitored • determine responses to out-of-specification results or non-conformance within level of responsibility • coordinate batch/product changeovers • plan maintenance and cleaning procedures to minimise disruption • monitor operating efficiencies of the system • review and maintain procedures to support system improvements
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • Operating procedures and related advice on equipment operation including advice on safe work practices and environmental requirements • Personal protective clothing and equipment • Company policies and workplace systems including human resources, OHS, quality, food safety and environmental management • Product and process specifications and operating parameters • System processes and related equipment • Materials and services as required • Related work areas and communication system • Planning, resources management and training

	<p>arrangements</p> <ul style="list-style-type: none"> • Troubleshooting advice where available • Material Safety Data Sheets where appropriate • Housekeeping standards and procedures • Advice on environmental management issues relevant to work responsibilities • Workplace information recording systems, requirements and procedures
Method of assessment	Other units of competency relevant to the work role should be assessed in conjunction with this unit.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Policies and procedures</p>	<p>Work is carried out in accordance with company policies and procedures, licensing requirements, legislative requirements, codes of practice and industrial awards and agreements.</p>
<p>Codes of Practice</p>	<p>Codes of practice include the Sugar Milling Operations Industry Code of Practice and sugar industry codes of practice related to cane railway and transport operations.</p>
<p>Sugar system operations</p>	<p>System operation involves:</p> <ul style="list-style-type: none"> • planning • coordination • troubleshooting and • optimisation within the operator's level of authority.
<p>Unit operations</p>	<p>Unit operations include:</p> <ul style="list-style-type: none"> • cane receivals • weighing and feeding • preparation • crushing • boilers • ash system • power generation • waste water treatment • water and air services • juice circuit • clarification • mud filters • evaporators • high and low grade pans • crystallisers • sugar driers and storage • high and low grade fugalals.
<p>Control points</p>	<p>Control points refer to those key points in a work process which must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> • safety, quality and regulatory control points and

	<ul style="list-style-type: none"> inspection points.
System equipment	Operation and monitoring of equipment and processes typically requires the use of control panels and systems.
Workplace systems	<p>Workplace systems are in place to support production processes. These include:</p> <ul style="list-style-type: none"> occupational health and safety product quality factory throughput recovery maintenance and environmental management.
Teamwork	Work may require the ability to work within a team environment.
Information systems	Information systems may be print or screen based.

Unit Sector(s)

Sugar Milling

FDFTEC3001A Participate in a HACCP team

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to participate in the development and/or review of a HACCP-based food safety program under direction.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit is appropriate where the operator requires a detailed understanding of the steps and techniques used to develop and review a HACCP-based food safety program.</p> <p>This unit can be aligned at either AQF 3 or 4. When aligned at AQF 3 the person would typically participate in the development of the food safety program as part of a group. The scope of contribution would typically be limited to their immediate work area. When this unit is applied at AQF 4 the person may take a lead role in facilitating the development of the food safety program and would apply an understanding of food safety across more diverse operations or work areas.</p> <p>This unit is based on and achieves part of the guideline food safety unit GFSDFSPA Develop food safety programs.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS2001A	Implement the food safety program and procedures

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to develop and/or review a food safety program	1.1. Roles and responsibilities for participating in, developing or reviewing a food safety program are identified 1.2. The scope of the food safety program is identified
2. Identify and/or review food safety hazards	2.1. Processes to be covered by the food safety program are identified and steps within each process are described 2.2. Food safety hazards that are reasonably expected to occur are identified for each process 2.3. Handling methods, processing techniques and existing support programs used in the workplace are identified
3. Establish and/or review methods to monitor and control food safety hazards	3.1. Acceptable methods of control are established for each food safety hazard that is reasonably expected to occur 3.2. Control methods are validated 3.3. Procedures for taking preventative action are established 3.4. Appropriate methods for monitoring that processes remain within control are established 3.5. Required corrective action to respond to situations where hazards are not effectively controlled is established 3.6. Work is conducted in accordance with workplace environmental guidelines

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify personal roles and responsibilities for participating in the development or review of a food safety program
- identify processes and steps to be covered
- identify hazards that are reasonably expected to occur and establish appropriate methods of control, such as participating in validating existing control methods and where there is no adequate control method in place, establishing an appropriate method
- establish or review procedures for implementing preventative action, such as revision of materials, processes and/or food handling procedures, and where required, the revision of workplace practices and documentation, such as specifications, operating procedures and approved supplier programs
- describe the appropriate monitoring requirements for each food safety hazard, including the method or procedure to be followed, the frequency and timing, the person responsible, and the information to be recorded (procedures to be followed would typically be specified in the form of a standard operating procedure or work instruction)
- describe corrective action requirements in the event that acceptable limits or requirements of support programs are not met
- develop or review documentation relating to the design and maintenance of the food safety program, such as flow diagrams, hazard analysis charts and tables, support program requirements, data analysis reports, corrective action reports and verification reports
- develop or review documentation to communicate food safety responsibilities, such as standard operating procedures (SOPs), processing parameters and recording devices (e.g. log sheets)
- communicate food safety responsibilities within level of responsibility using techniques and presentation styles appropriate to the audience
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- the purpose and intent of food safety legislation
- purpose and responsibilities for maintaining records as required by legislation and workplace procedures
- roles and responsibilities for development and maintenance of the food safety program, including roles of internal and external auditors and of authorised officers
- techniques for applying HACCP-based principles, including techniques for identifying hazards, assessing the likelihood of occurrence, determining acceptable methods of control, monitoring and recording requirements for each control point, identifying corrective action if controls are not met, and developing system review procedures
- techniques used to map operations and analyse food safety requirements, such as preparation of flow charts, hazard analysis charts and tables, and data analysis reports
- raw materials, ingredient and finished product composition and characteristics, and related handling and storage requirements
- food processing methods used in the workplace or work area and their effect on food safety
- sources of technical expertise on food safety requirements
- the role of consultation in the development, implementation and ongoing maintenance of the food safety program
- documentation and recording requirements to support communication and monitoring of the food safety program, including procedures for maintaining and updating relevant documents, such as operating procedures
- main types of food safety hazards/contamination likely to occur given the type of product and processing methods used
- conditions required for bacterial food poisoning to occur, such as water activity, pH, composition, time and temperature as relevant to food handled
- acceptable control methods for the hazards identified and required corrective action when control requirements are not met
- typical support programs, such as cleaning schedules, pest control, stock rotation, product traceability and personal hygiene, and how they can be used as part of a food safety program
- acceptable control methods for the hazards identified and required corrective action when control requirements are not met
- validation and verification processes and techniques and responsibilities

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify components and parameters of a food safety program • identify food safety hazards in production processes • establish and validate control standards and methods for each hazard • establish procedures for unpredicted hazards • communicate and document hazards and control procedures • complete workplace records • apply safe work practices and identify occupational health and safety (OHS) hazards and controls • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace food safety program documentation • advice on quality and food safety legislation • procedures for developing or modifying specifications and other advice on food safety requirements • procedures for developing or modifying documentation, such as work instructions and procedures, log sheets and other recording requirements • review/audit arrangements • consultative mechanisms • communication systems • training system • reporting/recording system.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and</p>

EVIDENCE GUIDE	
	other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Food safety programs</p>	<p>A food safety program is a written document that specifies how a business will control all food safety hazards that are reasonably expected to occur in the food business. The food safety program must provide for the systematic monitoring of the controls as well as appropriate corrective action if a hazard is found not to be under control. Records must be kept to demonstrate action in relation to, or in compliance with, the food safety program. A food safety program may be developed as a stand-alone program or may be integrated with the quality program in a workplace</p>
<p>Methods used to control hazards</p>	<p>Methods used to control hazards include:</p> <ul style="list-style-type: none"> • both support programs and specific hazard control limits or requirements <p>Typical examples of support programs include:</p> <ul style="list-style-type: none"> • product recall • cleaning schedules • pest control programs • personal hygiene practices • calibration procedures and related operating procedures
<p>Food safety hazards</p>	<p>Food safety hazards include:</p> <ul style="list-style-type: none"> • microbiological • chemical • physical hazards
<p>Validation</p>	<p>Validation refers to:</p> <ul style="list-style-type: none"> • the use of objective evidence in order to prove that materials, processes, procedures or equipment used are capable of delivering the intended result

RANGE STATEMENT	
Verification	<p>Verification refers to:</p> <ul style="list-style-type: none"> reviewing all aspects of the food safety program and related records to determine compliance with and adequacy of the food safety program <p>At a minimum, food safety programs must be verified annually</p>
Scope of the HACCP based plans	<p>The scope of the HACCP-based plan depends on workplace requirements and may extend outside the direct area of responsibility of the team participants</p>

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC3002A Implement the pest prevention program

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to implement an existing pest management program.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has application in a food production environment. It typically targets the worker responsible for inspecting food products and implementing control procedures.</p> <p>In some states and territories, activities including purchasing and application of some pesticides are covered by licensing arrangements. Where this applies, the appropriate licence is a prerequisite for undertaking this unit.</p> <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Food Standards Code and reference to food safety is replaced by GMP.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor the implementation of pest prevention measures	1.1. Inspections are conducted to monitor the effectiveness of pest prevention measures 1.2. Signs of pest infestation are identified, analysed and reported 1.3. Hygiene standards are maintained to meet company requirements
2. Implement pest elimination procedures	2.1. Control measures suited to infestation are selected 2.2. Procedures for the elimination of pests are implemented 2.3. Records are maintained 2.4. Waste is collected, treated and disposed of according to company procedures 2.5. Work is conducted in accordance with workplace environmental guidelines
3. Review pest control programs	3.1. Pest infestation is monitored to confirm effectiveness of treatment method 3.2. The treatment program is modified within level of responsibility 3.3. Changes to the treatment program are reported to the appropriate personnel

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- recognise indicators of pest invasion
- select appropriate control method according to the control program in place
- select, fit and use personal protective clothing and/or equipment
- follow pest elimination procedures, such as preparing pesticides for use, applying pesticides according to company procedures and licensing arrangements, setting up and operating equipment, such as fumigation and other pesticide application equipment, and preparing and placing baits as required
- follow procedures to measure and monitor pest populations, such as sampling, testing and recording data
- review effectiveness of control methods and amend or recommend changes to program as required
- safely dispose of pesticides, residues, empty containers and pests
- monitor the implementation of housekeeping and cleaning standards
- conduct tests according to enterprise procedures, such as using instrumentation to measure the presence of airborne pesticides
- carry out basic maintenance required to support pest prevention measures according to enterprise procedures
- liaise with external contractors according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic principles of integrated pest management (IPM), including identification of pest hazards, establishment of pest elimination methods and monitoring the effectiveness of these measures
- methods used to prevent pest invasion suited to workplace and typical pest invasion, including appropriate work area and storage design features to minimise the possibility of pest infestation through building access points, packaging materials/requirements to protect product from pests and other physical and mechanical control measures
- housekeeping and cleaning standards to minimise conditions which attract pests
- food safety issues relating to the use of pesticides in a food handling area

REQUIRED SKILLS AND KNOWLEDGE

- characteristics and behaviour of each type of pest at each life cycle stage
- conditions required by pests for survival
- methods and procedures used to minimise pest resistance to elimination methods
- range of pesticides used in the workplace
- legislation, codes of practice and procedures relating to the purchase, transport, storage, use and disposal of pesticides
- safe procedures for handling, using and storing pesticides and dangerous goods, identifying identification of information provided on labels, and where required, handling of gas cylinders
- purpose, application and limitations of protective clothing and equipment
- test methods where relevant
- basic maintenance procedures where relevant
- contractor service arrangements where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • conduct pest inspections • identify pest infestations and select suitable control measures • implement pest control measures in accordance with procedure • monitor effectiveness of controls • assess control procedures and contribute to improvement of pest control • complete workplace records as required • apply safe work practices and identify OHS hazards and controls • apply food safety procedures
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures, including advice on safe work practices, food safety and environmental requirements • pesticide labels • MSDS and personal protective clothing and equipment • pest management program and procedures • pest management compounds and equipment • housekeeping procedures and cleaning schedules in the work area, such as storage, production and/or packaging areas • documentation and record keeping system.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p>

EVIDENCE GUIDE	
	<ul style="list-style-type: none">• FDFOP2011A Conduct routine maintenance• FDFOP2013A Apply sampling procedures• MSL973001A Perform basic tests.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with company procedures, regulatory and licensing requirements, legislative requirements and industrial awards and agreements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • pest management program • pesticide labels • work instructions • standard operating procedures (SOPs) • specifications • materials safety data sheets (MSDS) • manufacturers' advice • standard forms and reports
Hazardous substances	<p>Work may involve:</p> <ul style="list-style-type: none"> • exposure to chemicals and other hazardous substances and may require working in accordance with a permit to work
Pests	<p>Pests include:</p> <ul style="list-style-type: none"> • vertebrates, such as birds, rats and mice • invertebrates, such as insects
Pest control methods	<p>Pest control methods may include:</p> <ul style="list-style-type: none"> • fumigation • application of insecticides, dusts, gas and/or baits (using registered controlled and generally available substances) <p>Where use of pesticides include work conditions covered by National Occupational Health and Safety Commission and/or state and territory health and safety authorities, the assessment criteria and methods prescribed by these</p>

RANGE STATEMENT	
	authorities must also be met
Selection of control measures	Selection of control measures occurs in the context of an existing program
Application equipment	Application equipment may include: <ul style="list-style-type: none"> • automated reticulation systems • sprayers • misters and dosing equipment
Tests	Tests may include: <ul style="list-style-type: none"> • testing the level of fumigant in the atmosphere and pressure testing
Records	Records are maintained to meet legal and company requirements

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC3003A Apply raw materials, ingredient and process knowledge to production problems

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers skills and knowledge required to apply knowledge of ingredients and processes to troubleshoot typical problems that occur in preparing, processing and/or packaging product.
------------------------	---

Application of the Unit

Application of the unit	This unit applies where problem solving occurs over one or more processes and requires an understanding of the characteristics of raw materials and ingredients and processing methods used. It typically applies to the production operator where responsibility for solving problems relating to non-conforming raw materials, ingredients and processes.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Identify and respond to non-conforming ingredients/raw materials</p>	<p>1.1. Non-conformance in raw materials/ingredients is identified and reported according to workplace reporting requirements</p> <p>1.2. Causes of non-conformance are investigated and reported according to workplace reporting requirements</p> <p>1.3. Corrective action is determined and implemented within level of responsibility and workplace procedures</p> <p>1.4. Action is taken to prevent recurrence of non-conformance</p> <p>1.5. Action is reported according to workplace reporting requirements</p>
<p>2. Identify and respond to non-conforming product and processes</p>	<p>2.1. Processing parameters, stages and changes which occur during processing are monitored</p> <p>2.2. Non-conformance in processing, handling and/or storage is identified and corrective action taken according to workplace requirements</p> <p>2.3. Causes of non-conformance relating to processing, handling and/or storage are investigated and reported according to workplace reporting requirements</p> <p>2.4. Corrective action is determined and implemented within level of responsibility and workplace procedures</p> <p>2.5. Action is taken to prevent recurrence of non-conformance</p> <p>2.6. Action is reported according to workplace reporting requirements</p> <p>2.7. Work is conducted in accordance with workplace environmental guidelines</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify requirements of ingredient/raw material characteristics within level of responsibility
- follow procedures to identify, remove/isolate and report non-conforming ingredients/materials and/or product according to workplace reporting requirements
- determine likely causes of non-conformance of ingredients/raw materials
- recognise indicators of unacceptable or non-conforming processing, handling and/or storage outcomes
- act promptly to identify, remove/isolate and report non-conforming product and/or processes
- access and apply workplace information relating to process troubleshooting
- investigate non-conformance to determine likely causes and report findings to appropriate personnel
- identify action required to correct non-conformance and implement within level of responsibility
- identify action required to prevent or minimise and control recurrence of non-conformance and implement within level of responsibility
- complete workplace records, including reporting non-conformance and documenting corrective actions according to workplace recording procedures
- conduct tests to confirm raw material/ingredient and/or final product quality characteristics according to enterprise procedures
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge

Knowledge of:

- basic composition and function of each main raw material/ingredient used, such as awareness of ingredient grades or types
- common causes of contamination/unacceptable quality of raw materials/ingredients
- methods used to confirm quality standard, such as accessing information (e.g. certificates of analysis and/or laboratory clearance information)
- the effect of variation in raw materials/ingredients on processing stages and final product outcome, including factors likely to cause variation, and scope to adjust or

REQUIRED SKILLS AND KNOWLEDGE

- correct for variation at each processing stage
- appropriate handling and storage requirements for raw materials/ingredients and final product, and the effect of failing to meet required storage conditions
- the changes and reactions that occur through processing stages, including the signs and symptoms of poor/unacceptable processing or equipment operation
- factors that affect the shelf-life of product
- the inter-relationships between processing stages and the effect of variation in processing parameters on process outcome and on final product, including factors likely to cause variation, and scope to adjust or correct for variation at subsequent process stages
- procedures for identifying and isolating non-conforming product
- troubleshooting information and techniques
- procedures and related documentation required to amend or introduce a new method or procedure, such as short term procedures for amending or updating specifications and processing parameters
- reporting requirements and responsibilities
- test methods to confirm raw material/ingredient and/or final product quality characteristics where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • describe required quality characteristics for raw materials and ingredients • describe required processes to achieve production specifications • identify common non-conforming materials and ingredients and causes • identify common non-conforming processes and causes • determine and undertake corrective action for non-conformances • complete workplace documentation and report non-conformances • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • ingredient/raw materials specifications and related advice, such as certificates of analysis • ingredients/raw materials and final product and related processing equipment and stores areas • troubleshooting information relevant to workplace processes • sampling and test equipment and procedures as required • system for managing and updating workplace documents, such as Standard Operating Procedures (SOPs) and log sheets/processing parameters • reporting and recording system and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or</p>

EVIDENCE GUIDE	
	<p>work role. Examples could be:</p> <ul style="list-style-type: none">• FDFOP2013A Apply sampling procedures• FDFPPL3002A Report on workplace performance• MSL973001A Perform basic tests• PMBQUAL390A Solve problems using quality tools.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, occupational health and safety (OHS), anti-discrimination and equal opportunity <p>When applied to the pharmaceutical industry, relevant Good Manufacturing Practice (GMP) codes apply in place of the Food Standards Code and reference to food safety is replaced by GMP</p>
Ingredients/raw materials	<p>Ingredients/raw materials are those used to manufacture product</p>
Typical processing and related techniques	<p>Typical processing and related techniques include but are not limited to:</p> <ul style="list-style-type: none"> • raw materials/ingredient dispensing • preparation • mixing and blending • conditioning • primary and further processing • wrapping • packing and storage
Typical process parameters	<p>Typical process parameters include but are not limited to:</p> <ul style="list-style-type: none"> • temperature

RANGE STATEMENT	
	<ul style="list-style-type: none"> • time • pressure • flow rate
Typical reactions	Typical reactions depend on processing method. Examples include but are not limited to: <ul style="list-style-type: none"> • gelatinisation and hydration
Problem minimisation	Where recurrence of a problem cannot be prevented, procedures should be established to minimise the likelihood of recurrence and to identify any further incidents

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC4001A Determine handling processes for perishable food items

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the knowledge required to determine process and equipment requirements for the handling and storage of perishable food items.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit covers management of handling, packing and storage processes used for perishable food items, such as fresh fruit and vegetables. It includes analysing current best practice processes and equipment and determining workplace practice.</p> <p>The unit includes an understanding of the principles of modified atmosphere packing processes.</p> <p>This unit is not designed to meet the competency requirements of the person responsible for determining packaging specifications, nor does it cover food packaging and labelling legislation. Where this is a requirement, refer to FDFTEC4006A Apply an understanding of legal requirements in food production.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Identify packing, handling and storage requirements for perishable food product</p>	<p>1.1. Requirements and performance measures for packing, handling and storage of perishable food product are identified</p> <p>1.2. Current best practice for packing, handling and storage of perishable food product are identified and workplace practices assessed for performance</p> <p>1.3. Features and operational processes of equipment used to handle, pack and store perishable food product are identified</p> <p>1.4. Customer and legal requirements of packing, handling and storing perishable food product are identified</p> <p>1.5. Packing materials used are confirmed as suitable for perishable food product</p>
<p>2. Specify packing, handling and storage processes</p>	<p>2.1. Equipment and facilities available for packing, handling and storage of perishable food product are identified and cost-benefit analysis conducted to assess potential value to workplace operations</p> <p>2.2. Equipment and facilities are specified for work operations</p> <p>2.3. Processes for packing, handling and storing perishable food product are specified</p> <p>2.4. Processes specified are in accordance with workplace environmental guidelines</p> <p>2.5. Labelling and documentation requirements are specified</p> <p>2.6. Workplace processes and operating procedures are documented and communicated to personnel</p>
<p>3. Manage problems with perishable food product</p>	<p>3.1. Common problems with perishable product are identified and likely causes determined</p> <p>3.2. Equipment and procedures are assessed to identify contributing factors to food problems</p> <p>3.3. Problems are identified and addressed in accordance with workplace procedure</p> <p>3.4. Out-of-specification processes or outcomes are documented</p> <p>3.5. Opportunities for improvement are identified and investigated within level of technical responsibility</p> <p>3.6. Proposals for improvement are developed and implemented within level of authority and according</p>

ELEMENT	PERFORMANCE CRITERIA
	to company procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify packing, handling and storage requirements for perishable product
- identify the quality assurance systems in place to ensure that the product meets customer and legal requirements
- identify factors that affect shelf-life of the perishable product and the features of packing design that preserve the product
- identify problems that occur and investigate likely causes
- determine appropriate corrective action to prevent non-conformance
- identify packing materials suitable for use with perishable food products
- identify legal requirements relating to perishable product, including Food Standards Code requirements and other legislation relevant to the product
- identify pathogens and spoilage that can occur in perishable food and the conditions required for these to occur
- identify features intrinsic to the food type, according to food type, such as pH, water activity, nutrient content, presence of microbiological compounds, respiration rate and biological structure
- identify extrinsic factors, such as processing method, temperature, water loss/humidity, maturity (applies to maturity of fruit and vegetables when harvested), handling, cleaning, sanitation and personal hygiene practices and gaseous composition of the storage atmosphere
- identify food spoilage indicators, such as microbial contamination, enzymic browning and sensory degradation of characteristics such as flavour, aroma, colour and texture
- identify factors that influence selection of packing and storage processes, including suitability for use with the food products to be packaged, compatibility with packing technology, cost, environmental features and consumer safety/tamper evidence
- describe the significance of factors, such as moisture and temperature in promoting/preventing product spoilage
- identify typical problems that occur with perishable food product and outline likely causes and appropriate response options within level of responsibility
- identify relevant sources of technical expertise and related authority levels to address issues
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE**Required knowledge*****Knowledge of:***

- properties of packing processes designed to protect perishable product and extend shelf-life
- relevant regulations, codes of practice and legislative requirements, including local and international regulations relevant to the handling and storage of perishable food products
- relevant occupational health and safety (OHS) and environmental protection procedures and regulations
- workplace procedures for the planning and management of the handling and storage of perishable food products
- problems that may occur during the planning and management of the handling and storage of perishable food products and action that can be taken to resolve or report the problems
- risks and hazards related to the handling and storage of perishable food products and ways of controlling the risks involved
- costs of equipment and facilities for handling and storing perishable food product
- pathogens and spoilage that can occur in perishable food and the conditions required for these to occur
- impact of extrinsic factors on perishable food products, such as temperature, water loss/humidity, maturity (applies to maturity of fruit and vegetables when harvested), handling, cleaning, sanitation and personal hygiene practices and gaseous composition of the storage atmosphere
- characteristics of product and its behaviour when packed, handled and stored over the shelf-life of the product
- typical problems that occur, and likely causes and appropriate response options

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • analyse packing, handling and storage requirements for perishable food product • specify processes and equipment to achieve workplace performance and quality outcomes • analyse and confirm safety aspects of processes and equipment • analyse non-conformances, problems and determine probable cause • propose improvements to the system.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • packaging specifications • product, packaging components and consumables • packaging process equipment • relevant workplace operating procedures • communication systems • workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Product packaging and related work processes are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of OHS and environmental impact

Unit Sector(s)

Unit sector

Technical

Competency field

Competency field

Co-requisite units

Co-requisite units

FDFTFC4002A Manage controlled atmosphere storage

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge to determine and maintain conditions required for controlled atmosphere storage of perishable produce.
------------------------	--

Application of the Unit

Application of the unit	This unit has application in fresh produce storage or processing environments. It would typically be performed by supervisors and senior operators or technicians responsible for ensuring that conditions in controlled atmosphere storage are set and maintained at the correct levels for the required produce.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Analyse features and parameters of controlled atmosphere storage	1.1. Type of storage facility, components and construction are identified 1.2. All features of the facility are examined and operational processes identified 1.3. Cooling mechanisms and processes are examined 1.4. Implications and parameters of controls are examined and range determined for fresh fruit product 1.5. Consequences of inaccurate controls are identified 1.6. Procedures for opening and closing doors and risks associated with air tight chambers are identified 1.7. Chemicals associated with the storage process are identified 1.8. Occupational health and safety (OHS) risks and control measures relating to safe operation of controlled atmosphere storage are identified 1.9. Storage documentation is confirmed according to workplace requirements
2. Determine operational requirements for storage	2.1. Storage requirements for fresh produce product are identified 2.2. Storage settings and monitoring schedule are established 2.3. Specifications are documented according to workplace practice
3. Set and monitor controlled atmosphere storage	3.1. Operational equipment is checked to ensure readiness 3.2. Settings for controlled atmosphere storage facility are entered according to specifications 3.3. Cooling is conducted at a rate and temperature suitable to produce requirements 3.4. Test equipment is calibrated 3.5. Temperature, air tightness and atmosphere levels are tested daily to ensure accurate levels and details recorded 3.6. Chemicals used in the storage process and associated risks and handling requirements are identified 3.7. Work is conducted in accordance with workplace environmental guidelines 3.8. Non-compliances and variances in temperature and

ELEMENT	PERFORMANCE CRITERIA
	atmosphere are recorded 3.9. Equipment maintenance requirements are identified and documented
4. Complete documentation	4.1. All workplace documentation is completed and files maintained as required 4.2. Quality control documentation is completed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- access workplace information to determine storage requirements
- identify storage requirements including temperature limits, atmosphere, minimum duration at given temperatures, segregation and co-storage requirements
- select, fit and use personal protective clothing and/or equipment
- conduct testing of atmosphere and temperature
- read instrumentation, such as temperature gauges, digital and non-digital, O₂ and CO₂ test equipment, to monitor stores and zone temperatures
- identify and report out-of-specification temperatures in storage facilities
- take corrective action in response to out-of-specification temperatures, including implementation of procedures to segregate damaged or potentially unsafe product
- complete records of stock receipt and transfer as required
- maintain work area to meet housekeeping standards
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- OHS hazards and controls, including the purpose and limitations of protective clothing and equipment, conditions for working in confined spaces and modified atmospheres, safe use of handling equipment, use of hazardous chemicals and air tightness
- implications of expansion and contraction of rooms
- temperature controlled storage facilities and features in the work area, including temperatures required for a variety of produce
- acceptable temperature and atmosphere ranges and consequences of failing to meet these ranges, such as requirements for gradual temperature change
- food safety and quality consequences of stock temperature control requirements not being met
- monitoring procedures and instrumentation, including use of thermometers or other measuring and testing instrumentation
- notification, recording and reporting requirements
- operating procedures for goods handling equipment as required
- housekeeping requirements for work area

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• recording requirements and procedures |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify features and control processes for controlled atmosphere storage • determine and enter settings for controlled atmosphere storage according to requirements for fresh produce • conduct tests to monitor temperature, air tightness and atmosphere of storage facility to ensure standards are maintained and act on any inconsistencies • apply OHS control measures • identify and act on non-conformances • complete workplace documentation • apply food safety procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • storage specifications • stock handling and rotation systems • controlled atmosphere storage facilities • stock information recording system and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. An example could be:</p> <ul style="list-style-type: none"> • MEM13003B Work safely with industrial chemicals and materials.
<p>Guidance information for</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over</p>

EVIDENCE GUIDE	
assessment	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements</p>
Legislative requirements	<p>Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes:</p> <ul style="list-style-type: none"> • relevant commonwealth, state and territory plant health and plant products legislation • legislation associated with the licensing and operation of load shifting equipment • refrigeration regulation • the Food Standards Code, including labelling, weights and measures legislation • legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity • work in confined spaces regulations
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • standard operating procedures (SOPs) • specifications • production schedules and instructions • manufacturers' advice • standard forms and reports
OHS risks	<p>OHS risks include:</p> <ul style="list-style-type: none"> • temperature • O₂ and CO₂ levels • chemicals • refrigerant • gases • nitrogen

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spillages
Equipment	Equipment may include: <ul style="list-style-type: none"> • condensers • evaporative and air coolers • electronic and manual testing equipment • generator • scrubber • nitrogen flushing equipment

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC4003A Control food contamination and spoilage

Modification History

November 2011: updated to include correct prerequisite.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prevent food contamination and spoilage. It includes management of food safety and cleaning and sanitation programs.
------------------------	--

Application of the Unit

Application of the unit	This unit has application at a level where a person would be expected to oversee control measures across a production site or facility.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS3001A	Monitor the implementation of quality and food safety programs* <i>FDFFS2001A Implement the food safety program and procedures</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify legal responsibilities to produce quality, safe food	1.1. Legal and ethical responsibilities to produce safe food are identified 1.2. Legal, company and customer quality standards for products are identified
2. Identify common causes of food poisoning and contamination	2.1. Food-borne pathogens and contamination that can occur in processed food are identified 2.2. Patterns of contamination and spoilage are traced through processing, storage and shelf-life for a given product 2.3. Conditions required for contamination to occur are identified 2.4. Laboratory results used to detect the presence of contamination and/or related conditions are analysed and applied
3. Manage control measures to eliminate and/or minimise the risk of contamination	3.1. Control measures related to receivals, handling and processing, storage and/or transport stages to guarantee food safety in the workplace are identified 3.2. Control measures to prevent food contamination and spoilage are documented and followed
4. Manage cleaning and sanitation regimes	4.1. The main types of cleaners and sanitisers used in the food industry are identified 4.2. Application methods and related materials, labour and equipment requirements are identified 4.3. Cleaning and sanitation methods and regimes are assessed for environmental impact 4.4. Appropriate cleaning and sanitation methods are selected to suit a given product, processing method and risk factors and to ensure minimal impact on the environment 4.5. Inspection and/or test methods are in place to confirm the effectiveness of the cleaning and sanitation program 4.6. Responsibilities for cleaning and sanitation are documented and communicated

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify the requirements of legislative responsibilities relating to food production, including food composition, specification of safe handling, processing, storage and transportation methods as appropriate, and establishment of related programs, such as cleaning and sanitation, personal hygiene practices, training and food traceability and recall procedures
- identify how legislative requirements have been applied in a production context (this will typically be based on the food safety program (HACCP) for a production process)
- identify related roles and responsibilities for implementing, maintaining and reviewing the food safety program in a production environment
- identify the types of pathogenic bacteria, viruses and chemicals that can occur in food, including the main types of pathogens and contamination that can occur for a given product and production method, as well as the specific strains that can occur
- identify the main types and causes of food spoilage that can occur, including:
 - bacterial growth
 - growth of yeasts and moulds
 - fermentation
 - enzymic reactions
 - physical degradation (oxidation)
- identify the conditions that cause or promote the growth of pathogens and other forms of contamination and food spoilage
- identify typical control measures used to prevent contamination from occurring, including microbiological, chemical and physical types of contamination
- distinguish between measures to control pathogenic growth (critical control measures) and those used to prevent other forms of contamination
- interpret test results and apply this information in a production context
- identify the types of contamination that can occur and the controls in place to prevent or minimise the likelihood of contamination occurring (where a food safety plan has been developed, compare the outcomes of this process with the provisions of the food safety plan)
- review workplace information to ensure that critical control measures and procedures are documented in a form appropriate to meet company and legal requirements and that quality control measures and procedures are documented to meet company and customer requirements (documentation includes action to be followed in the event of an incident or emergency and should be reflected in food safety plans and operating procedures)

REQUIRED SKILLS AND KNOWLEDGE

- identify the cleaning and sanitation requirements/standards appropriate for a food processing environment
- identify the types of cleaners, sanitisers and combined cleaning/sanitation agents used in the food industry and related application methods
- evaluate the appropriateness of available methods to a given production process/product type
- develop and/or review a cleaning regime suited to a given production process, including the nature, frequency and methods of cleaning and sanitation required, such as removal of residues as appropriate, inspection and/or test methods to confirm effectiveness and allocation of roles and responsibilities (the cleaning regime should balance the need to ensure effective cleaning and sanitation at the same time as minimising the disruption to production)
- identify the possible consequences of failing to follow the cleaning regime
- develop and/or review procedures to describe the methods, frequency, recording, inspection and test requirements related to implementation of cleaning and sanitation
- analyse and interpret test results relating to cleaning and sanitation
- for a given type of microbacterial and/or chemical contamination, identify likely causes, relevant tests and review of the effectiveness of existing controls, including cleaning and sanitation measures
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- the types of pathogenic bacteria, viruses and chemicals that can occur in food
- the main types of pathogens and contamination that can occur
- the main types and causes of food spoilage that can occur, including:
 - bacterial growth
 - growth of yeasts and moulds
 - fermentation
 - enzymic reactions
 - physical degradation (oxidation)
- the conditions that cause or promote the growth of pathogens and other forms of contamination and food spoilage
- criteria for evaluation to take account of the effectiveness of the method in controlling contamination risk, equipment requirements, cost and other criteria as identified by the workplace.
- issues of compatibility of cleaning agents with materials used in equipment/instrument fabrication

REQUIRED SKILLS AND KNOWLEDGE

- the legal responsibilities to maintain food production facilities in a clean and sanitary condition, the difference between a surface that appears clean and one that is microbiologically described as clean, and use of terms, such as sterile and commercially sterile
- laboratory procedures used to avoid erroneous results, including practices such as use of negative controls and the purpose of false positives/false negatives
- common terms, such as:
 - plate count
 - culture
 - colony
 - bacteriophage
 - spores
 - yeasts and moulds
 - water activity

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify legal, company and quality standards for food products • identify common causes of contamination and poisoning, and techniques used to verify status • identify and manage control measures used to address risks • manage cleaning procedures to ensure workplace standards meet food safety requirements.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • food safety plan and related information, including operating procedures, cleaning and sanitation regimes/plans • laboratory test results • a given production process and product as the basis for tracing contamination/spoilage and identifying control measures • cleaning and sanitation methods, equipment and procedures .
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Food-borne pathogens and contamination</p>	<p>Food-borne pathogens and contamination includes:</p> <ul style="list-style-type: none"> those listed in the World Health Organisation(WHO) table on 'Food-borne pathogens and chemicals of public health importance'. <p>This is reproduced in a number of food safety-related documents, including 'Food Safety Standards Costs and Benefits' ANZFA, May 1999</p>
<p>Food-related legislation</p>	<p>Food-related legislation relevant to this unit includes:</p> <ul style="list-style-type: none"> relevant state, territory and federal food safety legislation the Food Standards Code
<p>Identification</p>	<p>Identification can be based on active ingredients and includes but is not limited to:</p> <ul style="list-style-type: none"> alkaline and acid-based detergents steam/hot water-based methods of sanitation bleach-based sanitisers quaternary ammonium compounds (QUATs) alcohol-based sanitisers use of UV light, gamma radiation and combined cleaners/sanitisers

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC4004A Apply basic process engineering principles to food processing

Modification History

September 2012: clarified pre-requisite information.

Unit Descriptor

Unit descriptor	This unit of competency provides an introduction to process engineering concepts. It covers the skills and knowledge required to map production processes, measure outputs (yields, material variances) and apply an understanding of the basic principles of systems and equipment commonly used in the food processing industry.
------------------------	--

Application of the Unit

Application of the unit	Application of this unit includes systems and equipment used for heat transfer, refrigeration, pumping and evaporation/drying.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2030A	Operate a process control interface
	FDFTEC4007A	Describe and analyse data using mathematical principles* <i>FDFOP2015A Apply principles of statistical process control*</i>

Prerequisite units	
	<i>FDFO2061A Use numerical applications in the workplace</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Map a production process	1.1. The scope of a production process to be mapped is identified 1.2. Appropriate process mapping symbols are selected and used 1.3. A map is developed that identifies the relationship of each step in the process
2. Calculate yields and efficiencies of a production process	2.1. Inputs to and outputs of a production processing system are identified 2.2. Information required to monitor performance of a production process is collected 2.3. Calculate yields, efficiencies and material variances
3. Apply principles of fluid flow to a production process	3.1. Fluid properties that affect flow are identified 3.2. Components and related equipment used in the pumping system are identified 3.3. Features of the system design that affect performance of the pumping system are identified 3.4. The effect of pumping on the fluid properties is identified 3.5. The operating capacity of pumping systems used in the production process is established 3.6. Procedures for the safe use of pumping equipment are reviewed and/or established
4. Apply principles of heat transfer to a production process	4.1. Types of heat transfer are identified 4.2. Methods and related equipment used to transfer heat are identified 4.3. Types of heat transfer media are identified 4.4. Operating principles of cooling, chilling and freezing processes are identified 4.5. The effect of heat transfer on product/material properties is identified 4.6. The operating capacity of heat transfer equipment used in the production process is established 4.7. Procedures for the safe use of heat transfer equipment are reviewed and/or established
5. Apply principles of evaporation to a production process	5.1. Methods and related equipment used for evaporation are identified 5.2. The effect of evaporation on product/material properties is identified 5.3. Tests used to determine the concentration of a liquid

ELEMENT	PERFORMANCE CRITERIA
	<p>are identified</p> <p>5.4. The operating capacity of evaporation equipment used in the production process is established</p> <p>5.5. Procedures for the safe use of evaporation equipment are reviewed and/or established</p>
<p>6. Apply principles of drying to a production process</p>	<p>6.1. Methods and related equipment used for drying are identified</p> <p>6.2. The effect of drying on product/material properties is identified</p> <p>6.3. Tests used to determine moisture content of materials and/or product are identified</p> <p>6.4. The operating capacity of drying equipment used in the production process is established</p> <p>6.5. Procedures for the safe use of drying equipment are reviewed and/or established</p>
<p>7. Apply principles of process control to management of production processes</p>	<p>7.1. Sensors and instrumentation providing input information to the control system are located</p> <p>7.2. Consequences of a system malfunction are identified</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- establish and apply process mapping protocols and symbols used in the workplace to describe a production process
- identify the inputs to a production process and the outputs of a production process
- identify the data required to calculate yields, efficiencies and material variances
- locate sources of information in the workplace, such as printing reports from information management systems
- calculate yields, efficiencies and material variances using software or application of a formula
- identify properties of fluids that affect fluid flow, including viscosity, temperature and size, and distribution of particulates
- identify types of pumping equipment appropriate for different types of liquids
- identify tests or measures taken to monitor operation of pumps and related performance information
- apply information to describe pump system capacity in a production process
- identify features in the pumping system design that affects pumping efficiencies, including length of pipework, number and placement of valves and fittings, height of inlet and discharge points, internal surface and diameter of the pipe
- identify possible effects of pumping on liquid properties
- identify operational and safety features of pumps used in a production process, including inspections required to identify signs of faulty performance and/or wear
- review and/or establish procedures to define safe pump operation and maintenance
- identify heat transfer methods and types of equipment commonly used in the food industry, such as:
 - retorts
 - jacketed vessels/kettles
 - heat exchangers, including plate, tubular and scraped surface
 - cooling tunnels
 - refrigeration circuits
 - chillers
 - freezers
- identify typical applications in the food industry and the heat transfer medium used for each heat transfer method
- identify the effects of heat transfer on properties of materials/products, including possible consequences where the heat transfer process is not operated within specified parameters

REQUIRED SKILLS AND KNOWLEDGE

- distinguish between conduction, convection and radiation in the application of heat
- identify the properties of heat and steam, including an understanding of the terms latent heat, saturated and supersaturated steam
- identify the heat transfer requirements and equipment used in a production process, including mapping the stages and equipment used in a heat transfer process and holding stages
- identify tests or measures taken to monitor performance of heat transfer equipment and related expression of performance information
- apply information to describe heat transfer process capacity in a production process
- identify operational and safety features of heat transfer equipment used in a production process, including inspections required to identify signs of faulty performance and/or wear
- review and/or establish procedures to define safe operation and maintenance of heat transfer processes and equipment used in a production process
- identify the effects of evaporation on product, such as:
 - physical property changes such as crystallisation, increased solids/viscosity
 - intensification of flavour and concentration of acids
 - changes in microbiological characteristics due to application of heat and reduction of moisture/water activity
- identify the equipment components of an evaporation process, such as:
 - heat transfer surface (rising film, falling film, forced circulation and plate)
 - vapour separator
 - vapour condenser
 - vacuum unit
- map the stages and equipment used in an evaporation process
- identify tests or measures taken to monitor performance of an evaporation process and related expression of performance information
- apply information to describe evaporation process capacity in a production process
- identify tests carried out to determine material/product solids and related terms (common test methods include baume, refractive index and brix)
- identify the processing parameters, time required to achieve the target result and steam required
- identify operational and safety features of evaporation equipment used in a production process, including inspections required to identify signs of faulty performance and/or wear
- review and/or establish procedures to define safe operation and maintenance of evaporation processes and equipment used in a production process
- identify the effects of drying on product, such as:
 - changes that occur at each stage of the drying process
 - reduction in weight and bulk
 - changes in microbiological characteristics due to application of heat and

REQUIRED SKILLS AND KNOWLEDGE

reduction of moisture/water activity

- identify the equipment components of a drying process, such as:
 - hot air drying (fluidised bed driers, spray driers, belt trough driers, and air lift driers)
 - freeze drying (vacuum)
- map the stages and equipment used in a drying process
- identify tests or measures taken to monitor performance of a drying process and related expression of performance information
- describe drying process
- identify tests carried out to determine process outcomes on material/product
- identify the processing parameters, time and energy required to achieve the target result
- identify operational and safety features of drying equipment used in a production process, including inspections required to identify signs of faulty performance and/or wear
- review and/or establish procedures to define safe operation and maintenance of drying processes and equipment used in a production process
- identify the main types of sensors used in food processing to provide input data to control systems and how these sensors operate
- identify the location and operation of sensors and related data input devices to a control system on equipment used in a production process
- for a given production process, identify the criticality of system control and consequences of a system malfunction or power outage
- develop and/or review procedures to be followed in the event of a system malfunction or power outage
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- the basic operating features and components of pumps commonly used and typical applications, such as:
 - rotodynamic (centrifugal) pumps
 - positive displacement pumps, including reciprocating piston pumps, rotary pumps (including gear and lobe pumps), screw pumps, eccentric rotor pumps (including progressive cavity or mono pumps) and flexible vane pumps
- related components of the pumping system, including valves, taps and pipework, and where required, Australian standards and workplace protocols for indicating materials carried by pipework
- features in the pumping system design that affects pumping efficiencies, including

REQUIRED SKILLS AND KNOWLEDGE

length of pipework, number and placement of valves and fittings, height of inlet and discharge points, internal surface and diameter of the pipe

- the following terms:
 - pressure and pressure drop
 - velocity
 - head
- typical applications in the food industry and the heat transfer medium used
- equipment components of a drying process
- heat transfer requirements and equipment used in a production process
- tests carried out to determine process outcomes on material/product
- operational and safety features of drying equipment
- inspections required to identify signs of faulty performance and/or wear
- main types of sensors used in food processing to provide input data to control systems and how these sensors operate

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • map a production process • apply engineering principles to a food production context • perform required calculations.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures • methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • tests used to report relevant product/process information and recorded results.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Uses of processing equipment and related work processes are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact</p>
Calculation	<p>Calculation of yields, efficiencies and material variances may involve:</p> <ul style="list-style-type: none"> • use of software programs and systems, such as SAP • application of a relevant formula

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

Co-requisite units		

FDFTEC4005A Apply an understanding of food additives

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to recognise the characteristics and functions of food additives, preservatives, colours and flavours used in food products.
------------------------	---

Application of the Unit

Application of the unit	This unit is designed to provide an overview of food additives. It is not designed to meet the competency requirements of the person who specifies additives, preservatives, colours or flavours to be used in food. Analysis of the properties of food additives may also be done by a specialist.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify additives used in food	<p>1.1.Types of food additives and common additives used in food products are identified</p> <p>1.2.Functions of food additives are identified</p> <p>1.3.Legal requirements relating to use of food additives are identified</p> <p>1.4.Legal and quality consequences of incorrect additive addition are identified</p>
2. Manage use of additives in a production process	<p>2.1.Additives used in product range produced in the production process are identified</p> <p>2.2.Methods of addition are suited to food additive and production requirements</p> <p>2.3.Procedures for safe handling and addition of food additives are reviewed and/or established</p> <p>2.4.Handling, use and disposal of additives is conducted in accordance with environmental standards</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify common food additives and group them by function
- identify common types of additives used in the food industry
- identify the functions of food additives commonly used in food, such as:
 - texture modifying agents
 - organoleptic and nutritional modifying agents, including flavours, colours, flavour enhancers, sugar-free sweeteners, minerals, vitamins and food acids
 - shelf-life enhancing agents, including preservatives, anti-oxidants and food acids
 - technological aids, including humectants, enzymes, propellants, flour treatment, caking agents and bleaching agents
- identify additives, colours and flavours used in product range produced in the workplace, including:
 - coding system used to describe food additives, colours and flavours
 - legal requirements relating to additives used as established by the Food Standards Code
 - function in the food product
 - typical quantities used and related units of measurement
 - preparation requirements, and forming and breaking emulsions, and preparation of solutions where required
 - addition systems and related equipment requirements
 - health and safety issues related to handling of additives
 - process recording requirements
 - consequences of incorrect additive addition, including the Food Standards Code as it relates to food additives used in a given product range
- review and/or establish procedures to describe storage, handling and processing conditions that affect the characteristics of colours and flavours, such as:
 - changes in pH
 - temperature change
 - exposure to light
 - exposure to humidity
 - packaging materials
- review and/or establish procedures to describe the method of preparation and addition of additives to food products produced in the workplace
- provide examples of incorrect addition of food additives that could occur in the

REQUIRED SKILLS AND KNOWLEDGE

production process, determine appropriate corrective action within company policy and level of authority

- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- types of food additives and common additives used in food products
- the functions of food additives commonly used in food
- coding system used to describe food additives, colours and flavours
- legal requirements relating to additives used as established by the Food Standards Code
- typical quantities used and related units of measurement
- preparation requirements, such as forming and breaking emulsions, and preparation of solutions
- addition systems and related equipment requirements
- occupational health and safety (OHS) issues related to handling of additives
- consequences of incorrect additive addition, including Food Standards Code as it relates to food additives used in a given product range
- the quality and food safety hazards of incorrect addition
- handling and processing conditions that affect the characteristics of colours and flavours

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify legal, company and quality standards for food additives • identify main additives and groupings • describe the function and user requirements for additives • manage the use of additives to ensure product quality standards are achieved.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • product specifications, including advice on additives • food standards code • product range and related production processes • workplace information recording systems, requirements and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
Guidance information for assessment	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Handling of food additives, preservatives, colours and flavours and related work processes are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of OHS and environmental impact</p>
Groupings	<p>Groupings include but are not limited to:</p> <ul style="list-style-type: none"> • preservatives • anti-oxidants • acidulants • organoleptic and nutritional modification agents • colours and flavours, including synthetic and natural, oil and water soluble and lakes (dispersion in oil - applying to colours only) • technological aids

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC4006A Apply an understanding of legal requirements of food production

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to ensure that food production operations comply with legal requirements.
------------------------	--

Application of the Unit

Application of the unit	<p>The intent of this unit is to introduce the range of legal requirements applying to food processing activities and facilities. It does not include requirements related to environmental management, occupational health and safety (OHS) and food safety. These areas are covered by other units.</p> <p>The person who undertakes this unit may not be directly responsible for designing premises, equipment or procedures to comply with legislation but should be aware of the existence of legislation, its intent and the arrangements in place to ensure compliance.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Manage production systems to meet legislative requirements relating to product and processing</p>	<p>1.1. Relevant legislation and regulations that apply to food production, packaging and labelling are identified</p> <p>1.2. The purpose and intent of relevant legislation is identified</p> <p>1.3. The roles and responsibilities of authorities responsible for administering legislation are identified</p> <p>1.4. Procedures to support compliance with legal requirements are established and/or reviewed</p>
<p>2. Manage production facilities to meet legislative requirements relating to food premises, equipment design and storage facilities</p>	<p>2.1. Identify relevant legislation and regulations that apply to food premises, storage facilities and equipment are identified</p> <p>2.2. Identify the purpose and intent of relevant legislation are identified</p> <p>2.3. Identify the roles and responsibilities of authorities responsible for administering legislation are identified</p> <p>2.4. Procedures to support compliance with legal requirements are established and/or reviewed</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify the legal responsibilities of a food processing company, including responsibilities relating to:
 - product content (Food Standards Code)
 - product packaging and labelling, including use of nutritional information panels (Food Standards Code)
 - design requirements of food premises and equipment
 - requirements of storage facilities used for materials, ingredients and final product
 - other requirements as appropriate to the product and/or market (e.g. import and/or export legislation)
- identify and/or develop specifications and procedures to ensure that legal responsibilities related to product content and packaging are achieved
- inspect plant design to identify potential hazards that could be introduced as a result of equipment design and configuration, such as overhead pipes or equipment where dust could collect and fall into food
- where hazards are identified, apply the hierarchy of control to identify opportunities to remove or control the risk
- identify storage facilities across a production site
- identify the dangerous goods stored on site and confirm that storage of these goods (type and quantity) meets legal requirements
- confirm that employees required to handle chemicals and dangerous goods are advised of the associated risks, that this information is available in a form appropriate to the audience and that material safety data sheets are available
- develop and/or review recording systems to confirm compliance with legislative requirements and ensure that employees responsible for recording information are informed of these responsibilities
- establish internal review/audit procedures to confirm that legislative responsibilities are met
- identify the relevant authority responsible for administering the legislation
- identify the rights and responsibilities of related officers to access the production site
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

<i>Knowledge of:</i>

- | |
|--|
| <ul style="list-style-type: none">• legal responsibilities of a food processing company relating to product content and packaging• the purpose and intent of relevant legislation• potential hazards that could be introduced as a result of equipment design and configuration• associated risks in handling chemicals and dangerous goods• recording requirements to comply with legislative requirements• relevant authorities responsible for administering legislation and their roles |
|--|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify legal requirements for the packing, production and labelling operations of a food production enterprise • assess systems, roles and procedures in place • identify legal requirements for facilities and equipment and assess compliance • establish and/or review procedures to support compliance with legal requirements.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace processes and procedures • workplace documentation, including specifications and procedures • relevant legislation • communication systems • workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. An example could be:</p> <ul style="list-style-type: none"> • FDFPPL4008A Manage internal audits.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Legislation

Legislation to be covered by this unit includes:

- Food Standards Code
- Australian standards
- food safety legislation (including provisions covering the design of food premises and equipment)
- customs and excise legislation (for alcohol-based ingredients/materials)
- dangerous goods legislation
- import and export legislation
- additional legislation as appropriate to product, process and market
- environmental protection legislation

Unit Sector(s)

Unit sector	Technical
-------------	-----------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

Co-requisite units		

FDFTEC4007A Describe and analyse data using mathematical principles

Modification History

November 2011: updated to include correct prerequisite.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to apply mathematical principles to interpret data relating to properties and production of food products.
------------------------	---

Application of the Unit

Application of the unit	This unit builds on an understanding of common units of measurement, formulae and mathematical skills related to production activities.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFOP2015A	Apply principles of statistical process control* <i>FDFOP2061A Use numerical applications in the workplace</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify common units of measurement and dimensions used to describe physical properties of materials and food	1.1. SI units of measurement and related unit symbols are identified 1.2. Common formulae used to measure characteristics of food are identified and applied 1.3. Calculations involving fractions and ratios are performed
2. Apply linear algebra to analyse workplace information	2.1. Given two known values, an unknown value is calculated 2.2. The principles of transposing values are applied to solve workplace problems
3. Use graphs to analyse workplace information	3.1. Data analysis and presentation requirements are identified 3.2. Graphs are generated to analyse and display workplace information 3.3. A process control chart is constructed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify the fundamental units (SI) of measurement (metres, kilograms and seconds)
- identify common derived units/measurements, related formulae and their application in a food processing context, such as:
 - density, specific gravity
 - viscosity
 - temperature
 - volume, weight and mass
 - velocity
 - other measures as appropriate to a production process
- apply relevant formulae to measure physical characteristics of food products and/or processes
- select production calculation requirements, such as the adjustment of a recipe formulation, to:
 - select required formulae
 - express the problem as an equation
 - identify the known and unknown values
 - manipulate equations by transposing values as required
 - convert units into compatible formats (i.e. SI units, multiples and sub-multiples)
 - calculate of percentages and ratios
 - conduct the calculation to obtain a solution
 - record the result in the appropriate units and level of detail
- identify graphs commonly used in the workplace and relevance to displaying workplace information
- construct charts to analyse and illustrate workplace information, such as use of relevant software
- calculate standard deviation for a given data set
- apply an understanding of standard deviation to determine capability of a process
- identify the target (mean value) for the process
- identify upper and lower control limits to provide for 98% of units to fall within the limits
- use communication skills to interpret and complete work information to support operations of work team or area

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• demonstrate and support cooperative work practices within a culturally diverse workforce |
|--|

Required knowledge

<i>Knowledge of:</i>

- | |
|---|
| <ul style="list-style-type: none">• SI units of measurement and related unit symbols• common formulae used to measure characteristics of food• principles of transposing values to solve workplace problems• relevant formulae to measure physical characteristics of food products and/or processes• processes for developing charts and graphs• calculations to determine unknown values, percentages and ratios, standard deviation, conversion of units into compatible formats, target (mean value) for the process, upper and lower control limits |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify SI units of measurement • identify common derived units/measurements, related formulae and their application in a food processing context • apply relevant formulae to measure physical characteristics of food products and/or processes • calculate standard deviation • construct charts • identify mean value • identify upper and lower control limits.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • workplace processes and procedures • workplace documentation, including conversion charts, sampling plan and control chart formats, related data collection methods, such as log sheets, and relevant formulae to be applied to a production process.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. An example could be:</p> <ul style="list-style-type: none"> • FDFPPL4005A Establish process capability.
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Common measurements

Common measurements include but are not limited to:

- density
- specific gravity
- volume
- weight
- mass
- speed

Graphs

Graphs include but are not limited to:

- statistical process control (SPC) charts
- x-y charts

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

Co-requisite units		

FDFTTEC4008A Apply principles of food packaging

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to oversee packaging operations and assess the nature and likely causes of packaging problems.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit covers a range of packaging technologies and is appropriate for a senior operator or manager responsible for overseeing packaging processes. The unit includes a basic understanding of the principles of modified atmosphere packaging processes.</p> <p>This unit is not designed to meet the competency requirements of the person responsible for determining packaging specifications, nor does it cover food packaging and labelling legislation. Where this is a requirement, refer to FDFTTEC4006A Apply an understanding of legal requirements of food production.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify characteristics of packaging suitable for use with food products	1.1. Packaging materials suitable for food application are identified 1.2. Packaging interactions with food products are identified 1.3. Environmental impact and handling features of packaging materials are identified 1.4. Customer and legal requirements of packaging are identified 1.5. Packaging material characteristics meet the needs of the food to be packaged
2. Apply packaging knowledge in a production environment	2.1. Properties of packaging materials used in a packaging process are identified 2.2. Costs of packaging materials are identified 2.3. Procedures for safe operation of the packaging process are established and/or reviewed 2.4. Out-of-specification packaging outcomes are analysed to identify probable cause 2.5. Opportunities for improvement to materials, processes or environmental impacts are identified and investigated within level of technical responsibility 2.6. Proposals for improvement are developed and implemented within level of authority and according to company procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify properties of packaging materials as specified in packaging specifications for product handled
- identify the quality assurance systems in place to ensure that the packaged product meets customer and legal requirements
- identify factors that affect shelf-life of the packaged product and the features of packaging design that preserve the product
- identify problems that occur in the packaging process and investigate likely causes
- determine appropriate corrective action to prevent packaging non-conformance
- identify packaging materials suitable for use with food products, including plastics, paper-based materials, glass and metal-based materials
- describe the purpose of packaging and the properties of packaging materials designed to protect product and extend shelf-life, including the role of packaging to provide:
 - protection of product from contamination (microbial, pest infestation, and physical damage)
 - barriers (atmospheric, moisture, flavour and light)
 - package sealability and seal integrity
 - easy-to-open access to the product
 - information to the consumer about the product
 - market appeal
- identify legal requirements relating to packaged product, including Food Standards Code requirements and other legislation relevant to the product
- identify pathogens and spoilage that can occur in packaged food and the conditions required for these to occur
- identify features intrinsic to the food type, according to food type, such as pH, water activity, nutrient content, presence of microbiological compounds, respiration rate (fresh fruit and vegetables) and biological structure
- identify extrinsic factors, such as processing method, temperature, water loss/humidity, maturity (applies to maturity of fruit and vegetables when harvested), handling, cleaning, sanitation and personal hygiene practices and gaseous composition of the storage atmosphere
- identify food spoilage indicators, including microbial contamination, enzymic browning and sensory degradation of characteristics, such as flavour, aroma, colour and texture
- describe the features of packaging material requirements of products handled in the workplace, including coated packaging products, and active/interactive packaging

REQUIRED SKILLS AND KNOWLEDGE

films

- identify factors that influence selection of packaging materials, including market appeal, suitability for use with the food product/s to be packaged, compatibility with packaging technology, cost, environmental features, consumer safety/tamper evidence
- identify packaging methods and technologies designed to extend shelf-life, including active packaging materials, vacuum packing, gas flushing or sparging and modified atmosphere packaging (MAP)
- describe the significance of factors, such as moisture and temperature in promoting/preventing product spoilage
- identify typical problems that occur in the packaging process, and outline likely causes and appropriate response options within level of responsibility (where MAP is used, this includes pack collapse and may include fogging - relevant to fresh fruit and vegetables)
- identify relevant sources of technical expertise and related authority levels to address packaging issues
- for MAP packaging processes, describe the effect of gas composition on the packaged product according to enterprise procedures, including the role of the most commonly used gases in food packaging including carbon dioxide, oxygen and nitrogen and the reaction between gases, the packaged product and the packaging material
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- properties of packaging materials designed to protect product and extend shelf-life
- packaging interactions with food products
- costs of packaging materials
- legal requirements relating to packaged product, including Food Standards Code requirements and other legislation relevant to the product
- features of packaging design that preserve the product
- pathogens and spoilage that can occur in packaged food and the conditions required for these to occur
- impact of extrinsic factors on food products, such as processing method, temperature, water loss/humidity, maturity (applies to maturity of fruit and vegetables when harvested), handling, cleaning, sanitation and personal hygiene practices and gaseous composition of the storage atmosphere
- characteristics of product and its behaviour when packaged over the shelf-life of the product
- factors that influence selection of packaging materials

REQUIRED SKILLS AND KNOWLEDGE

- typical problems that occur in the packaging process, and likely causes and appropriate response options
- the characteristics of product handled and its behaviour when packaged over the shelf-life of the product, for example, reactions that occur when canning some types of vegetables requiring appropriately coated cans, respiration that is ongoing after fresh fruit and vegetables are packaged requiring gas permeable packaging materials, and the effect of high moisture and high fat content products on the packaging process where MAP packaging processes are used

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • analyse packaging system components, including materials used and interaction with product, costs, processes, legal and customer requirements and environmental and handling implications • analyse and confirm safety aspects of processes and equipment • analyse non-conformances and packaging problems and determine probable cause • propose improvements to the packaging system.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • packaging specifications • product, packaging components and consumables • packaging process equipment • relevant standard operating procedures (SOPs) • communication systems • workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Product packaging and related work processes are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact
Packaging processes and technologies	Packaging processes and technologies include: <ul style="list-style-type: none"> • active packaging materials • vacuum packing • gas flushing or sparging • MAP
Out-of-specification results	Follow-up action in response to out-of-specification results occurs in consultation with the relevant quality/technical expert responsible for packaging specifications

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC4009A Identify the physical and chemical properties of materials, food and related products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify the physical and chemical properties of materials, food and related products. It requires application of this knowledge to a production environment.
------------------------	---

Application of the Unit

Application of the unit	This unit has application in the food processing industry where knowledge of physical and chemical properties of materials, food and related products is used to inform work in product development, production, testing, communication and problem solving.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply understanding of common physical phenomena in the food industry	1.1. An understanding of common physical phenomena is applied to explain relevant changes that occur to ingredients and product through the production process 1.2. Information on the changes that occur is communicated to others in appropriate formats
2. Apply an understanding of the physical states of matter	2.1. The three states of matter and the atomic changes that occur at each phase are identified 2.2. The behaviour of each type of matter and its relationship to the production process is described 2.3. The relationship between pressure and temperature in phase transition is identified
3. Apply an understanding of common food science principles to a production process	3.1. The significance of pH for processing, food safety and cleaning applications is identified 3.2. The reactions and properties of carbohydrates, proteins and fats can be tracked through a given process 3.3. The properties of common emulsions, suspensions and solutions can be described 3.4. Common chemical reactions that occur, factors required to cause a reaction and the effect of reactions can be identified 3.5. Safe work procedures for processes requiring handling of chemicals and/or involving chemical reactions are reviewed and/or established
4. Communicate and interpret technical information	4.1. Appropriate technical terms are used to communicate information on properties of food and materials commonly used in the food industry 4.2. Test results and reporting formats to communicate information on composition, properties and reactions are interpreted and applied

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify physical characteristics or phenomena that occur through processing, including the following common physical phenomena, and any additional phenomena appropriate to the production process:
 - shear and strain
 - friction
 - surface tension
 - pressure
 - crystallisation
 - total solids
 - heat and temperature
 - relative humidity
 - work/energy input
 - viscosity
 - particle size
 - melting points, boiling points, freezing points
 - dew/condensation point
 - other phenomena as appropriate to product/process
- identify products and processes where these phenomena can be observed
- based on phenomena that can be observed in a production process, develop explanatory sketches or flow charts to communicate how these phenomena affect product and process
- identify tests commonly used to measure these phenomena and related units of measurement
- identify molecular changes that occur in states of matter, and apply this to an understanding of common applications, such as refrigerant or freeze drying
- for transition phases that apply in a given production process, identify the role of temperature and pressure in the transition process
- identify the difference between acids and bases
- classify commonly used materials, ingredients and indicators according to pH
- identify the difference between a strong acid and a concentrated acid and related units of measurement used to describe these acids
- identify typical strengths and concentration levels required for acids and bases commonly used in a production process (e.g. cleaning agents)
- for cleaning agents, identify compatibility with equipment surface materials

REQUIRED SKILLS AND KNOWLEDGE

- identify the significance of pH for processing, food safety and cleaning applications
- identify the basic molecular structures of carbohydrates, proteins and fats
- identify the processing stages designed to affect the structure of these compounds (e.g. hydrogenation or denaturing proteins in cooking processes of oil)
- distinguish the difference between solutions, suspensions and colloidal systems. Colloidal systems include:
 - emulsions (oil in water/water in oil)
 - sols (solid-liquid/solid-solid)
 - gels
 - foams (gas-liquid/gas-solid)
- identify typical applications of solutions, suspensions and colloidal systems in food processing
- distinguish between dispersed particles and the dispersion medium in colloids
- identify factors that affect stability of colloidal systems, including the stages in a production process that can cause a change in the structure of a colloid
- identify common chemical reactions that occur in food processing, including both spontaneous and controlled reactions (reactions to be covered include oxidation, enzymic, Maillard and acid-based reactions, and other reactions relevant to a given product type and production process)
- identify the role of enzymes in generating biological reactions (e.g. amylase in bread)
- identify safety hazards and control methods required when handling chemicals and working with processes that involve chemical reactions
- review and/or develop workplace procedures to include advice on hazards and related instructions on control methods, including advice on action required in the event of an incident such as a chemical spill or an emergency
- read and interpret technical information to describe food properties and/or reactions, including recognition and application of appropriate units of measurement and terms
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

knowledge of:

- physical characteristics or phenomena that occur through processing and products and processes where these phenomena can be observed
- tests commonly used to measure these phenomena and related units of measurement
- molecular changes that occur in states of matter

REQUIRED SKILLS AND KNOWLEDGE

- transition phases that apply in a given production process
- role of temperature and pressure in the transition process
- differences between a strong acid and a concentrated acid and related units of measurement
- classifications of commonly used materials, ingredients and indicators according to ph
- typical strengths and concentration levels required for acids and bases commonly used in a production process
- basic molecular structures of carbohydrates, proteins and fats
- difference between solutions, suspensions and colloidal systems
- typical applications of solutions, suspensions and colloidal systems in food processing
- factors that affect stability of colloidal systems
- common chemical reactions that occur in food processing
- role of enzymes in generating biological reactions
- safety hazards and control methods
- technical information resources

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify physical and chemical characteristics of food materials and the impacts of production processes on these characteristics • identify common tests and measures to assess food materials • identify the characteristics of acids and bases and their application in food processing • identify the basic molecular structures of carbohydrates, proteins and fats • distinguish the difference between solutions, suspensions and colloidal systems • identify hazards and control methods in managing hazardous materials • communicate technical information using correct technical terms, flow charts and sketches.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • production process and related equipment, manufacturers' advice and operating procedures • tests used to report relevant product/process information and recorded results.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Handling and processing of product and materials</p>	<p>Handling and processing of product and materials is consistent with company standards and requirements, legislative requirements, codes, industrial awards and agreements</p>
<p>Identification of molecular structure</p>	<p>Identification of molecular structure can be supported by others and does not necessarily involve use of microscopes in a laboratory</p>

Unit Sector(s)

Unit sector	Technical
-------------	-----------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFTEC4010A Manage water treatment processes

Modification History

November 2011: update to imported prerequisite, minor typographical error corrected.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to treat water for use in production stages, such as washing and cooling and to treat waste water.
------------------------	---

Application of the Unit

Application of the unit	This unit is designed to provide an overview of water treatment methods and responsibilities across a food production site. It is not designed to meet the competency requirements of the person who specifies water quality standards and/or treatment methods.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	MSAENV272B	Participate in environmentally sustainable work practices

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Manage water treatment processes	1.1. Uses of water within the plant and the related quality requirement for each use are identified 1.2. Appropriate treatment methods are in place to meet treatment requirements 1.3. Environmental considerations for water treatment are identified and treatment options selected or applied to minimise environmental impact 1.4. Procedures for treating water are developed and/or reviewed
2. Manage waste water treatment and disposal	2.1. Sources and characteristics of waste water generated across food processing operations are identified 2.2. Methods for treating and recycling water are identified 2.3. Appropriate treatment methods are in place to meet treatment requirements 2.4. Legal requirements for water discharge are identified 2.5. Factors affecting the cost of water discharge are identified and monitored 2.6. Conditions that could result in non-compliance and the related control methods in place to prevent this from occurring are established 2.7. Procedures for treatment of waste water are developed and/or reviewed to ensure compliance with trade waste standards and minimal impact to the environment 2.8. Opportunities to reduce the volume of trade waste and improve treatment methods are identified, investigated and implemented within level of responsibility

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- map the uses of water in production across the production site, such as water used in cooling applications, and washing/flushing
- identify treatment requirements and methods for water used in production, such as addition of sanitising agents (e.g. chlorine and anti-rust agents)
- identify causes of risks associated with Legionella and related control measures
- describe the meaning of terms and concepts used to describe water quality, such as:
 - potable
 - total residual chlorine
 - free residual chlorine
 - available chlorine
- identify acceptable limits for water going to storm water (pH range)
- identify the legal, social and environmental consequences of releasing water to the environment that does not meet water quality standards
- identify characteristics that are monitored in waste water and how these affect the cost of trade waste disposal (this is set out in agreements with the water supplier and typically includes volume, BOD, suspended solids, and nitrogen - some types of heavy metals may also be monitored although this may not directly affect cost of disposal)
- identify equipment and methods used to monitor waste water characteristics, including meters used to measure volume and a sampling and testing regime to check water quality
- describe principles of common methods used to treat trade waste and identify typical applications, including both primary and secondary treatment stages
- identify conditions that could result in failure to comply with legal requirements for storm water and related control methods (e.g. spill control consequences and control methods)
- identify conditions that could result in high costs of trade waste disposal and related control methods, such as conditions or activities that place additional load on treatment processes (e.g. use of strong cleaning chemicals and related control measures)
- develop and/or review procedures to describe procedures to minimise costs of trade waste disposal, including good housekeeping practices, such as collection of solids and materials rather than hosing them down drains
- identify the rights of relevant authorities to enter the site and conduct independent sample collection and test procedures
- Identify appropriate communication and consultation systems to support

REQUIRED SKILLS AND KNOWLEDGE

- continuous improvement of resource efficiency and waste management
- identify trends in environmental management and social expectations of companies and assess the company environmental policy and related procedures in light of these trends
- map the drainage points across a production site, including identifying drains that go to banded areas, trade waste and storm water
- map the waste water generated at each stage of the food processing operation (for each stream generated, identify the characteristics of waste water and related treatment requirements)
- carry out an assessment on water use within a given process
- identify the quantities and applications of water, the treatment stages, if any, points where water could be more effectively conserved, such as running hoses, steam leaks, and waste water generated by the process
- identify the treatment methods currently in place and consider opportunities to improve resource utilisation through conservation of water, changing materials and processing methods and/or more effective treating and/or recycling of waste water
- based on investigations, develop improvement proposals (this may be undertaken with input from relevant technical specialists)
- establish and/or utilise consultative arrangements to canvass input on efficient water use and trade waste treatment methods
- communicate information on changes to workplace systems and procedures to support improvements
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- uses of water in production
- treatment requirements and methods for water used in production
- legal, social and environmental consequences of releasing water to the environment
- causes of risks associated with Legionella and related control measures
- acceptable limits for water going to storm water (pH range)
- characteristics that are monitored in waste water and how these affect the cost of trade waste disposal
- rights of relevant authorities to enter the site and conduct independent sample collection and test procedures
- trends in environmental management
- characteristics of waste water and related treatment requirements
- methods for recycling water
- conditions that could result in non-compliance and the related control methods

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• information resources |
|---|

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • identify and assess water usage and disposal processes in the production site • identify environmental impacts of water use, treatment and disposal • identify risks associated with water quality • identify treatment requirements and methods for water used in production • identify costs associated with use, treatment and disposal • identify and assess opportunities for improving water efficiencies.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • company environmental policy and related procedures • site plans, including relevant advice on drainage system • advice on environmental hazards and control procedures relevant to the production facility • incident and emergency response procedures and equipment • workplace information recording systems, requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of

EVIDENCE GUIDE	
	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Water treatment and related work processes	Water treatment and related work processes are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact
Procedures for waste water treatment	Procedures for waste water treatment include: <ul style="list-style-type: none"> • safety information and procedures to respond to non-compliance and emergency situations
Out-of-specification results	Follow up action in response to out-of-specification results occurs in consultation with the relevant quality/technical expert responsible for packaging specifications
Primary treatment stages	Primary treatment stages include but are not limited to: <ul style="list-style-type: none"> • separation • filtration • sedimentation (settling tanks) • dissolved air floatation (DAF)
Secondary processes	Secondary processes include but are not limited to: <ul style="list-style-type: none"> • activated sludge • trickling filter systems

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC4011A Participate in product recalls

Modification History

November 2011: Updated to include correct prerequisite.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to identify circumstances that could warrant a product recall and to initiate and/or participate in recall processes within level of authority.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit can apply where a person has primary responsibility for initiating a product recall or where they are required to participate in the recall decision and related process as part of a team.</p> <p>Product recalls occur in the context of an established recall procedure.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS3001A	<p>Monitor the implementation of quality and food safety programs*</p> <p><i>FDFFS2001A Implement the food safety program and procedures</i></p>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify product recall situations	1.1. Circumstances that could result in a product recall are identified 1.2. Appropriate controls are in place to manage risks 1.3. Criteria used to initiate a product recall are identified 1.4. Legal responsibilities and requirements of a recall program are identified
2. Participate in a product recall	2.1. The components of the product recall system in the workplace are identified 2.2. Workplace systems are used to trace ingredients, materials and batch information 2.3. Product recall procedures are implemented within level of responsibility 2.4. Procedures to define roles and levels of authority in the event of a product recall are established/reviewed
3. Review processes to minimise the risk of recurrence	3.1. The cause of the product recalls are investigated 3.2. Purchasing arrangements and in-house procedures are established or reviewed to minimise the risk of recurrence 3.3. Consultative mechanisms are established and/or reviewed to support continuous improvement and communicate information on product recalls

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify relevant workplace information, including the company's food safety plan and vendor assurance arrangements
- identify the risks that could result in the need to initiate a product recall and the control measures in place to prevent incidents occurring
- identify legal and company requirements of the product recall system, including the provisions of food safety legislation and related company system and criteria for determining when a recall is required
- for a given range of circumstances that could result in the need for a product recall, outline appropriate responsive action within company policy and procedures
- identify and/or develop the components of the recall system to meet company and legal requirements, including information recording systems to support traceability; identification of personnel responsible for assessing information and determining appropriate action, and procedures that define roles and levels of responsibility
- identify the social, financial, environmental and legal consequences of failing to initiate a recall or for delaying the decision
- identify and/or develop procedures for the investigation of causes and review of arrangements and procedures in the event of an incident, such as reviewing responses to previous incidents to assess effectiveness and/or developing recommendations on appropriate procedures
- identify and/or develop the appropriate communication systems and channels for consulting with people affected by the recall procedure and communicating information on improvements to be implemented
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- circumstances that could result in a product recall
- legal responsibilities and requirements of a recall program
- components of the recall system to meet company and legal requirements
- company's food safety plan and vendor assurance arrangements
- risks that could result in the need to initiate a product recall and the control measures in place to prevent incidents occurring
- social, financial and legal consequences of failing to initiate a recall or for delaying

REQUIRED SKILLS AND KNOWLEDGE

the decision

- | |
|---|
| <ul style="list-style-type: none">• procedures for investigating causes• communication requirements and procedures |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • identify criteria and circumstances for a product recall • identify controls designed to prevent product recall • identify legal implications of a product recall • identify features of the workplace product recall system and procedures • participate in the implementation of the product recall procedures • determine and examine the cause of product fault • establish mechanisms to improve operations and minimise the risk of occurrence.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • company food safety program and related information relevant to product recall, such as contractual arrangements with suppliers, product specifications and process parameters, and recall procedures • legislation relating to product recall, including relevant food safety legislation • workplace information recording systems, requirements and procedures.
<p>Method of assessment</p>	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role.</p>
<p>Guidance information for assessment</p>	<p>To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where</p>

EVIDENCE GUIDE

	possible, over a number of assessment activities.
--	---

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Product recalls and related work processes are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact

Unit Sector(s)**Unit sector**

Technical

Competency field**Competency field****Co-requisite units****Co-requisite units**

Co-requisite units		

FDFTEC5001A Manage and evaluate new product trials

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to plan, monitor and evaluate the trialing of new products in production.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the management of the trial in a production environment. New product trials typically involve working with a team of area specialists including product development and engineering experts.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish trial parameters	1.1. New product specifications are defined 1.2. Production resource requirements are identified 1.3. Project budget and timeline are established 1.4. Trial size is appropriate to provide reliable process and production information
2. Prepare for the new product trial	2.1. New product recipe/formula is scaled to suit trial production 2.2. Raw materials/ingredients, packaging components and consumables are identified and confirmed to meet trial requirements 2.3. Production equipment is identified, available and suitable for use 2.4. Production personnel are available and have the required competencies to operate the trial process 2.5. Environmental, food safety and health and safety hazards of the trial process are identified and appropriate control methods determined 2.6. Trial documentation format and procedures are agreed 2.7. The trial schedule timeline is established and barriers/constraints to achieving schedule are identified, monitored and addressed
3. Develop and communicate information on the trial process	3.1. Personnel in related work areas and functions are kept informed of trial status and progress 3.2. Operators directly participating in the trial are advised of trial parameters, roles and responsibilities 3.3. Advice on product specifications and operating procedures is communicated to the project team
4. Monitor trial progress	4.1. The trial process is monitored to identify actual and potential barriers to achieving the schedule 4.2. Trial product is produced within specification 4.3. Out-of-specification or unacceptable outcomes are identified and investigated 4.4. Unusual or atypical conditions that could affect the achievement of the schedule are identified 4.5. Modifications are made and reported as required according to trial arrangements
5. Evaluate trial outcome	5.1. Trial objectives are identified 5.2. Resource allocations are assessed against plan

ELEMENT	PERFORMANCE CRITERIA
	5.3. Trial product is assessed against specifications 5.4. Production parameters/operating conditions are compared with scheduled performance 5.5. Significant variances are identified and investigated 5.6. Improvement opportunities are identified and reported

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify trial objectives and information requirements, including clarifying reporting requirements and formats
- identify trial participants, including clarifying roles, responsibilities and levels of authority (participants may include technical experts, related functions such as planning, quality assurance and engineering and trial process operators)
- establish and maintain effective communication processes to meet the information requirements of all stakeholders
- assess final product specifications against recipe/formulation and processing method to confirm capability
- identify production targets and timeframes against equipment and process capability
- confirm availability of resources to meet trial schedule, such as stock levels, equipment availability and capacity, personnel and storage capacity
- identify competencies required by trial operators and confirm availability, such as arranging training prior to trial
- confirm that all hazards have been identified and appropriate methods of control are in place to control environmental, food safety and OHS hazards (control methods should be selected consistent with the control hierarchy)
- establish a detailed trial schedule to manage the process
- ensure that relevant documentation is available in appropriate formats, including product specifications/recipe formulations, process parameters and operating procedures
- monitor trial progress against detailed plan to identify variances and identify factors that may need to be adjusted to achieve schedule, which may require consultation with operators and other experts
- investigate and report on causes of variation and identify opportunities for improvement, such as participating in/facilitating problem solving processes
- use project planning, scheduling and monitoring skills, such as use of relevant software applications
- collect and evaluate trial information, such as participating in/facilitating an evaluation team
- report on trial outcomes and related improvement opportunities to meet reporting requirements of the trial process
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse

REQUIRED SKILLS AND KNOWLEDGE

workforce

Required knowledge

Knowledge of:

- trial project parameters, constraints and criteria for evaluating outcomes
- sources of expertise available to support the trial process
- process documentation procedures and requirements to ensure that the process meets trial outcomes and is consistent with legislative and company policy objectives, including relevant legislation
- factors to be taken into account in planning and monitoring the trial process
- proposed formulations and preferred processing method to assess constraints and opportunities for improvement, including equipment capability, typical materials usage rates to achieve a given production outcome, and area experts in related roles, such as product development and engineering, where required, to provide additional expertise
- systems and procedures for managing OHS, environmental management and food safety through the trial process consistent with the hierarchy of control
- investigation and process improvement techniques and processes, including techniques to collect and evaluate trial data
- recording systems and requirements

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • establish parameters and conditions and requirements for product trial • establish, document and communicate the procedure for the trial • monitor and evaluate trial outcomes against objectives and set conditions • document all aspects of trial to ensure repeatability and collection of evidence.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • trial objectives and parameters • new product specifications • raw materials/ingredients, packaging components and consumables • related production equipment • relevant Standard Operating Procedures (SOPs) • communication systems • workplace information recording systems, requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role. An example could be: <ul style="list-style-type: none"> • FDFPPL4005A Establish process capability.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Trial conditions	Trial conditions are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of OHS and environmental impact of scheduling arrangements
Achieving schedule	Achieving schedule involves meeting product specifications within given resource allocations and timelines
Trial processes	Trial processes typically involve a multi-disciplinary team
Factors to be taken into account in planning and monitoring the trial process	<p>Factors to be taken into account in planning and monitoring the trial process may include but are not limited to:</p> <ul style="list-style-type: none"> • product specifications • raw materials/ingredients, packaging components and consumables • storage capacities • production capacity, configuration and availability • processing parameters • labour requirements and availability • trial production targets/timelines • related OHS, food safety and environmental hazards and controls

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

FDFTEC5002A Manage utilities and energy for a production process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to monitor, conserve and control costs of utility and energy supply to a production process.
------------------------	---

Application of the Unit

Application of the unit	Responsibility for selecting suppliers and negotiating contracts will differ between workplaces. The purpose of this unit is to address the skills and knowledge required to assess requirements, identify suppliers with appropriate capacity, compare costs of supply, monitor usage patterns and recommend improvements to enhance efficiency and reduce cost. The authority to make final decisions on supply may or may not rest at this level.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess utility and energy requirements	1.1. Energy and utility requirements for a given production facility are estimated 1.2. Estimates of requirements take account of historical patterns of use and forecast production volumes
2. Identify suppliers of energy and utilities	2.1. Existing and potential suppliers of energy and utilities are identified 2.2. Environmental costs and benefits associated with supply are identified and considered in supply criteria 2.3. Criteria for selection of suppliers is established and applied 2.4. Suppliers capable of meeting supply criteria are selected 2.5. Contingency procedures are reviewed or developed in the event of failure of supply
3. Monitor energy and utility use against budget	3.1. Use of energy and utilities is measured and recorded 3.2. Usage patterns are analysed against performance standards and budget allocations 3.3. Cost-effective options for balancing the scheduling requirements for production with containment of energy and utility costs are identified, assessed and implemented within level of responsibility
4. Contribute to the more efficient use of energy and utilities	4.1. Energy and utility losses or sources of waste are identified 4.2. Opportunities to improve efficient energy/utility application are identified, investigated and reported 4.3. Consultative mechanisms are established and/or reviewed to support continuous improvement and communicate information on energy and utility efficiency and related procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- map the uses of energy and utilities in production across the production site, including identifying patterns of usage (volume and spread of load)
- identify the units of measurement used to quantify energy and utilities
- identify methods used to measure usage rates of energy and utilities, including physical measurement instruments, such as meters and measurement techniques used to track inputs to and outputs of a process
- analyse historical data and sale/production forecasts to project energy and utility requirements for a given production system over a fixed period
- identify supplier criteria, such as cost and capacity
- identify costs of supply, including tariffs and charges, and peak demand/cost periods
- identify and evaluate opportunities to spread supplier load and risk by use of multiple suppliers and/or co-generation
- establish contingency plans and procedures in the event of supply failure taking into account food safety issues
- identify common methods and equipment for generating utilities for use on-site, such as steam generation and other utilities as appropriate for a given production facility
- where boilers are operated on-site, identify relevant licensing requirements to be met by operators as appropriate to boiler types and relevant issuing authority
- given existing energy and utility supply arrangements, determine the most efficient scheduling of production to meet the dual objectives of production outcomes and efficient energy/utility use
- monitor energy and utility usage rates of a given production facility and identify variances against budget/plan
- identify factors that affect the efficient use of energy and utilities, such as:
 - features of process/system configuration and design that conserve and/or recycle energy and utilities such as steam, heat and water
 - poor maintenance which can result in losses such as steam, glycol or ammonia leaks etc
 - procedures for shutting down plant and equipment (e.g. equipment left running during breaks)
 - procedures for conserving resources not directly related to the process, such as lighting and airconditioning
- assess the impact of these factors on energy and utility utilisation for a given production facility and identify opportunities to improve efficiency

REQUIRED SKILLS AND KNOWLEDGE

- based on investigations, develop improvement proposals (this may be undertaken with input from relevant technical specialists)
- assess and/or develop procedures to support efficient energy and utility utilisation (this measure of efficiency needs to take account of impact on process equipment, health and safety and food safety)
- establish and/or utilise consultative arrangements to canvass input on energy and utility efficiency including input on waste identification and reduction and options for improved efficiency
- communicate information on changes to workplace systems and procedures to support improvements
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- uses of energy and utilities in production and units of measurement used to quantify energy and utilities
- methods used to measure usage rates
- elements of costs associated with supply, including tariffs and charges
- licensing requirements to be met by operators as appropriate to boiler types and relevant issuing authority
- factors that affect the efficient use of energy and utilities

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • determine utility requirements and assess current practices • establish supply options and conduct analysis to determine most efficient arrangements • monitor and evaluate utility usage against targets and identify wastage or losses • identify and assess opportunities for improving energy efficiencies.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • company information on energy and resource utilisation • details of contractual arrangements with suppliers • production scheduling requirements and systems • energy and resource utilisation information recording systems, requirements and procedures.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Use of utilities and energy supplies and related work processes are consistent with company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements and takes account of occupational health and safety (OHS) and environmental impact
Utility and energy for a production facility	<p>Utility and energy for a production facility refers to:</p> <ul style="list-style-type: none"> • gas • power • water • steam • airconditioning • other utilities as appropriate to a production facility
Supply options	<p>Supply options include:</p> <ul style="list-style-type: none"> • internal supply of utilities, such as steam and air conditioning as well as external supply

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

FDFWGG2001A Bench graft vines

Modification History

This unit supersedes and is equivalent to FDFWGGBGVB Bench graft vines.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to select appropriate vine material and bench graft vines.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to wine grape growing and covers the bench grafting of vines. The unit includes the selection of appropriate vine material, preparation of cuttings, grafting and post-grafting treatment and storage.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. Prepare to bench graft vines	1.1 Materials are confirmed as available to meet grafting requirements 1.2 Cuttings are selected and prepared for grafting 1.3 Equipment is checked to confirm readiness for use 1.4 Equipment is set to meet grafting needs as required
2. Bench graft vines	2.1 Cuttings are disbudded according to workplace procedures 2.2 Cuttings are bench grafted according to workplace procedures 2.3 Graft is treated and/or taped according to workplace procedures 2.4 Grafting process and equipment are monitored to ensure results are maintained within specifications 2.5 Out-of-specification process and equipment performance are identified, rectified and/or reported
3. Complete bench grafting activities	3.1 Equipment is shut down, cleaned and maintained as required 3.2 Grafted vines are packed, labelled and stored according to instructions 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify grafting requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas and customers
- confirm supply of necessary materials
- select appropriate vine material for grafting. This may include consideration of:
 - variety and clone
 - matching cambium
 - matching bevels and sizes
 - wood diameters
 - customer or workplace requirements
- prepare vine material for grafting. This may include:
 - removal from cold storage
 - soaking
 - heat treatment
 - disbudding
 - hydration
 - grading
- select, prepare and set equipment as required
- operate equipment
- disbud vines according to instructions
- bench graft vines to match specifications
- treat vines after grafting. This may include:
 - packing into callusing boxes
 - hormonal treatment
 - careful handling
 - following hygiene procedures
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring:
 - tightness of graft union
 - progress (e.g. number per day)
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required

- sort, collect, treat, recycle or dispose of waste as required
- maintain work area to meet housekeeping standards. This should include hygiene requirements to prevent cross-infection
- clean equipment as required
- pack, label and store grafted vines. This may include consideration of:
 - cold room layout
 - cold room temperature variations
 - customer requirements
 - storage time requirements
 - care of vine material (e.g. moisture and disease)
- identify, rectify and/or report environmental non-compliance
- conduct routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose of grafting and various methods of budding and grafting
- purpose and methods of disbudding
- criteria for successful grafting
- importance of selection and use of rootstock and Vinifera
- advantages of using clonal and registered vine improvement rootstock material
- criteria for selecting parent vines for scion material
- procedures and optimum conditions for the storage of material until required for grafting
- stages of the grafting procedure and their purpose
- common problems and corrective action required
- hygiene requirements and procedures
- purpose and components of grafting equipment
- operating procedures for grafting equipment
- methods of callusing vine cuttings and the criteria for best callus development
- procedures and responsibility for reporting problems
- environmental issues and controls
- cleaning requirements and procedures for work area and equipment
- reporting and recording requirements and procedures
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • select and prepare appropriate vine material for grafting including disbudding • undertake bench grafting of vines to instructions • post-grafting treatment and packing of vines is to instructions • monitor grafted vines and out of specification grafted vines identified and rectified or reported • follow personal and work area hygiene procedures • dispose of waste correctly • record and report results of grafting according to procedures.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.

EVIDENCE GUIDE	
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Grafting methods	<p>Grafting methods may include:</p> <ul style="list-style-type: none"> • T buds • Chip • Wedge • side bark

RANGE STATEMENT	
	<ul style="list-style-type: none"> • V • omega
Equipment	Equipment may include: <ul style="list-style-type: none"> • secateurs • grafting knife • grafting machine • vermiculite boxes • gloves • budding tape
Grafting seals	Grafting seals may include: <ul style="list-style-type: none"> • tape • fungicides • paint • wax
Materials	Vine material may include: <ul style="list-style-type: none"> • rootstock • scion • rootlings and cuttings (at various sizes)
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Confirming equipment status	Confirming equipment status will include: <ul style="list-style-type: none"> • checking that safety standards and pre-start requirements are met and that equipment is operational

-
-

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2002A Carry out potting operations

Modification History

This unit supersedes and is equivalent to FDFWGGCPOB Carry out potting operations.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialised unit has been developed for wine grape nurseries. It covers the skills and knowledge required to carry out potting operations under supervision.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to wine grape growing and covers the potting of calloused cuttings. The unit includes preparation of cuttings and potting media, sterilisation of pots and work areas, potting of cuttings and transfer to glasshouses.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for potting operations	1.1 Work instructions on potting operations are confirmed and understood 1.2 Materials are confirmed as available and ready to meet potting requirements 1.3 Potential and existing hazards are identified, rectified and/or reported according to workplace procedures 1.4 Potting media is blended to according to workplace procedures 1.5 Pots and work areas are cleaned and sterilised to minimise risk of contamination 1.6 Grafted cuttings are prepared according to instructions
2. Pot on propagated material	2.1 Callused cuttings requiring potting are identified and collected according to instructions 2.2 Soil is placed in pots according to workplace procedures 2.3 Cuttings are planted according to instructions 2.4 Trays are labelled according to instructions 2.5 Safe work practices are implemented to minimise risk of hazards
3. Carry out post-potting treatments	3.1 Potted cuttings are transferred to the glasshouse according to instructions 3.2 Potted cuttings are watered according to instructions 3.3 Waste is collected and disposed of according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify potting requirements
- confirm supply of necessary materials
- liaise with other work areas and customers
- select, fit and use appropriate personal protective clothing and/or equipment
- select, operate, maintain and store required equipment according to instructions
- maintain work area and equipment to meet workplace housekeeping standards
- maintain work area and equipment to meet workplace hygiene standards
- use appropriate cleaning techniques
- recognise problems and anomalies and correct and/or report them as instructed
- implement safe work practices to minimise risk of hazard
- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- prepare chemical treatments to required concentration and ensure a homogenous mix
- prepare cuttings as instructed. This may include:
 - grading
 - waxing
 - dipping in hormones
 - hydrating
- plant cuttings as instructed. This may include:
 - putting correct amount of media into the pots
 - placing cuttings with nodes facing upwards
- label trays as instructed
- transfer potted cuttings as instructed
- water potted cuttings as instructed
- collect and dispose of waste as instructed
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- Occupational health and safety (OHS) hazards and controls
- purpose and application of protective clothing and/or equipment
- correct operating procedures of equipment
- safe and effective handling of equipment
- safe preparation and handling of potting media
- cleaning requirements and procedures for work area and equipment
- eEnvironmental issues and controls
- reporting and recording requirements and procedures
- procedures and responsibilities for reporting problems and anomalies
- waste disposal requirements and procedures
- safe preparation and handling of chemicals
- commonly occurring problems with potted cuttings
- principles of nursery hygiene.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • correctly handle potting media and chemicals and disinfectants • select and mix chemical treatments to required concentrations • sterilise posts and work surfaces to instructions • select or blend potting media according to instructions and placed into pots • correctly carry out grading, waxing or other preparations of cuttings before potting • plant cuttings correctly and label trays • dispose of waste according to procedures • complete records correctly.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> potting machines front-end loader

RANGE STATEMENT	
	<ul style="list-style-type: none"> • forklift
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • potting mix • pots • cuttings • trays • pallets
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • rejected cuttings • spilled potting media • damaged pots • boxes
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • inhaling potting media • use of chemicals and disinfectants • moving machinery • transferring pots • exposure to sun • dust • using fungicide and hormone dips • operating potting equipment
Media components	<p>Media components may include:</p> <ul style="list-style-type: none"> • sand • potting mix • gravel • gro-wool • sawdust • pine bark • perlite • vermiculite • foam • peat • amendments • nutrients • ameliorants • ash • rice hulls • sphagnum moss

RANGE STATEMENT	
	<ul style="list-style-type: none"> • commercial mixes
Contamination	Contamination may include: <ul style="list-style-type: none"> • pests • diseases • viruses
Problems and anomalies	Problems and anomalies may include: <ul style="list-style-type: none"> • evidence of nematodes • crown gall • dehydration • infection • physical damage • graft union failure
Treatments	Common treatments may include: <ul style="list-style-type: none"> • waxing • fungicide dips or drench • watering in
Labelling	Labelling may include: <ul style="list-style-type: none"> • variety • clone • batch number • date potted • number potted
Records	Records will include: <ul style="list-style-type: none"> • batch number • clone variety • date potted • number potted • treatments administered

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2003A Hand prune vines

Modification History

This unit supersedes and is equivalent to FDFWGGHPVB Hand prune vines.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to hand prune vines under regular supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit covers the pruning of vines used in winemaking using a variety of hand operated or handheld equipment. Pruning methods may include spur pruning, cane pruning, rod and spur pruning. Pruning includes the ability to recognise problems and anomalies with vines and to select the best spurs, canes and buds according to instructions. The unit also covers the use of sharpening equipment and air compressors used for power pruning and sharpening equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment for hand pruning	1.1 Pruning equipment is checked to confirm readiness for use
2. Hand prune vines	2.1 Pruning equipment is started up and operated according to instructions as required
	2.2 Equipment performance is monitored to confirm performance is maintained within specification as required
	2.3 Vines are pruned in accordance with instructions
	2.4 Anomalies and problems are recognised, rectified and/or reported
	2.5 Equipment is maintained in good working order
3. Complete hand pruning operations	3.1 Equipment is shut down according to instructions as required
	3.2 Equipment is cleaned and stored according to instructions
	3.3 Vine cuttings are disposed of according to instructions
	3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify pruning requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- handle pruning equipment safely. This includes following the correct handling and sharpening procedures
- start up and operate automatic pruning equipment as required
- monitor and recognise performance problems with pruning equipment and correct or report them as instructed. This includes oiling moving parts and sharpening blades
- identify different parts of the grape vine. This should include identifying:
 - vine trunk and permanent framework
 - canes and/or cordons
 - tendrils and buds
- prune vines according to instructions. This may include:
 - selecting the best possible spurs and canes
 - positioning spurs or canes
 - cleanly removing sucker shoots
 - leaving the correct quantity of spurs, rods and buds
 - making cuts correctly and cleanly
 - recognising and removing unwanted growth
 - rolling and securing extension canes onto trellis wire as required
- use appropriate cleaning techniques
- recognise and report problems and anomalies
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- clean and store equipment according to instructions
- identify, rectify and/or report environmental non-compliance
- maintain work area to meet housekeeping standards
- dispose of vine cuttings according to instructions
- carry out routine preventive maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose of pruning vines
- basic components of the vine
- basic difference between cane and spur pruning
- pruning requirements
- safe handling of pruning equipment
- purpose and application of personal protective clothing and/or equipment
- correct operating procedures for pruning equipment
- shutdown sequence
- tag-out and lock-out sequence and methods
- cleaning and storage requirements of pruning equipment
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- basic problems and anomalies
- procedures and responsibility for reporting problems and anomalies
- disposal requirements of vine cuttings
- routine preventive maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • follow pruning equipment safety procedures • start and operate pruning equipment correctly • select best spurs and canes • prune correctly and according to instructions • perform routine and emergency shut downs • follow environmental instructions • dispose of cuttings according to instructions • maintain records as required.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of

EVIDENCE GUIDE	
	competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • electronic, hydraulic, pneumatic and hand secateurs • sharpening stone • file • scabbard or pouch • choppers (two-handed snips) • petrol air compressors

RANGE STATEMENT	
Methods of pruning	<p>Methods of pruning may include:</p> <ul style="list-style-type: none"> • spur pruning • cane pruning • rod and spur pruning • hand clean up after machine pruning
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • signs of common pests and diseases, such as mildew, eutypa, phomopsis, boring insects, dying arm, crown gall, diseased wood, dead vines, damaged trellis or irrigation system, and faulty, stiff or blunt equipment

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2004A Undertake irrigation systems maintenance activities

Modification History

This unit supersedes and is equivalent to FDFWGGISMB Undertake irrigation systems maintenance activities.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to perform routine maintenance of vineyard irrigation systems under supervision.
-----------------	--

Application of the Unit

Application of the unit	This unit applies to wine grape growing and covers the maintenance of the vineyard irrigation systems. It includes fault reporting, cleaning and routine preventative maintenance.
-------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. Inspect irrigation system	1.1 Irrigation system is checked for faults and anomalies 1.2 Faults and anomalies are recognised, rectified and/or reported
2. Maintain irrigation system	2.1 Cleaning and maintenance materials are prepared as required 2.2 Irrigation system is cleaned according to instructions 2.3 Routine preventive maintenance is carried out according to instructions 2.4 Waste generated by both the cleaning and maintenance procedures is monitored, collected, treated, disposed of or recycled according to workplace procedures 2.5 Work is conducted in accordance with workplace environmental guidelines
3. Record information	3.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify irrigation system maintenance requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- interpret readings on gauges and meters
- recognise performance problems with the irrigation system and correct or report them as instructed
- identify different components of the irrigation system
- use basic hand tools
- prepare cleaning materials as required
- clean the irrigation system according to instructions. This may include:
 - chemical injection (e.g. chlorine)
 - manual cleaning (e.g. brushes)
 - flushing end points
 - cleaning filters
- use appropriate cleaning techniques
- prepare maintenance materials as required
- conduct routine preventive maintenance of the irrigation system according to instructions. This may include:
 - replacing faulty components and seals
 - maintaining banks or channels
- collect, sort, treat and dispose of, or recycle waste
- identify, rectify and/or report environmental non-compliance
- clean and store equipment according to instructions
- maintain work area to meet housekeeping standards
- record workplace information as instructed
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose, features and components of the irrigation system
- common faults, problems and anomalies and how to solve them
- safe handling of hand tools and maintenance equipment
- maintenance requirements and methods of the irrigation system
- purpose and application of personal protective clothing and/or equipment
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems and anomalies
- cleaning and storage requirements of equipment and materials
- workplace recording requirements and procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • recognise components of the irrigation system • check irrigation system for correct operation • rectify blocks, breaks, leaks and other minor faults • identify and report major faults • carry out routine preventative maintenance correctly • undertake cleaning of system according to instructions and OHS procedures • remove and treat or dispose of waste according to procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required.
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or

EVIDENCE GUIDE	
	work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Components	<p>Components of the irrigation system may include:</p> <ul style="list-style-type: none"> • drippers • joiners • pipelines • sprinklers • filters • microjets

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pumps • furrows • valves
Faults	<p>Minor faults may include:</p> <ul style="list-style-type: none"> • blocks • breaks • leaks
Maintenance	<p>Routine preventive maintenance includes:</p> <ul style="list-style-type: none"> • cleaning filters • flushing lines • replacing components
Tools	<p>Basic hand tools may include:</p> <ul style="list-style-type: none"> • screwdriver • shifters • dripper hole punchers • pressure gauges • snips and pliers
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • cleaning chemical • tape • glue • wire • spare parts
Irrigation systems	<p>Irrigation systems may include:</p> <ul style="list-style-type: none"> • flood • dripper • overhead • water winch
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWGG2005A Maintain callusing environment

Modification History

This unit supersedes and is equivalent to FDFWGGMCEB Maintain callusing environment.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for wine grape nurseries. It covers the skills and knowledge required to maintain a callusing environment under supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to wine grape nursery staff who work with vine cuttings that are to be callused in preparation for planting. The unit covers the maintenance of the callusing environment, preparation of callusing boxes, pre- and post-callusing treatments and monitoring of callusing process. All work is done to specifications and knowledge of occupational health and safety (OHS), environmental and hygiene requirements is required.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare callusing environment	1.1 Work instructions on callusing are confirmed and understood 1.2 Materials required for callusing are confirmed as available and ready to meet requirements 1.3 Equipment is selected and used according to workplace procedures 1.4 Work area, equipment and boxes are cleaned and sterilised to minimise risk of contamination 1.5 Potential and existing hazards are identified, rectified and/or reported according to workplace procedures 1.6 Pre-mixed callusing media is prepared as instructed 1.7 Callusing environment is prepared according to workplace procedures 1.8 Callusing boxes are prepared according to workplace procedures
2. Prepare cuttings for callusing	2.1 Cuttings are prepared for callusing according to instructions 2.2 Pre-callusing treatments are applied as instructed 2.3 Cuttings are counted, bundled and labelled according to instructions 2.4 Cuttings are placed into boxes according to instructions
3. Maintain cuttings in callusing room	3.1 Cuttings are placed into callusing environment according to workplace procedures 3.2 Callusing environment is maintained within specifications 3.3 Cuttings are monitored for potential health problems according to workplace procedures 3.4 Post-callusing treatments are applied to maintain plant health according to workplace procedures
4. Carry out post-callusing operations	4.1 Callused cuttings are removed from callusing room as instructed 4.2 Waste is collected and disposed of according to workplace procedures 4.3 Facilities are cleaned and sterilised according to workplace procedures 4.4 Work is conducted in accordance with workplace environmental guidelines
5. Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify callusing requirements
- confirm supply of necessary materials
- liaise with other work areas
- select, fit and use appropriate personal protective clothing and/or equipment
- select, operate, maintain and store the required equipment according to instructions
- maintain work area and equipment to meet workplace housekeeping standards
- maintain work area and equipment to meet workplace hygiene standards
- use appropriate cleaning techniques
- recognise problems and anomalies and correct and/or report them as instructed
- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- prepare callusing media to specified moisture levels
- prepare callusing environment. This may include:
 - turning on heaters and fans
 - setting and monitoring temperature and relative humidity
- prepare callusing boxes. This may include:
 - filling boxes with sand or vermiculite
 - lining boxes
 - storing excess media
- prepare chemical treatments to required concentration and ensure homogenous mix
- prepare cuttings for callusing. This may include:
 - taking cuttings out of storage
 - cutting just below basal bud
- apply pre-callusing treatment. This may include:
 - hydrating cuttings
 - applying fungicide treatments
 - applying root promoter treatment
- prepare labels in a clear and legible manner with waterproof ink
- place cuttings into boxes. This may include:
 - feeling into media
 - watering in
 - placing correct number of cuttings per box

- placing basal end at bottom
- dipping into hormone mixes
- arranging cuttings according to variety, clone and source
- labelling and mapping of beds
- maintain callusing environment. This may include consideration of:
 - temperature
 - relative humidity
 - moisture levels of growing medium
- monitor cuttings for potential health problems. This may include identifying:
 - uneven callusing
 - dehydration
 - presence of pests and diseases
- apply post-callusing treatments. This may include:
 - hydrating cuttings
 - applying fungicides
- remove callused cuttings. This may include:
 - loading cuttings onto trucks or trailers
 - potting or planting cuttings
- dispose of waste as instructed. This may include:
 - pasteurising callusing media
 - spreading waste material through the vineyard
 - placing waste in bins for removal by disposal company
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- OHS hazards and controls
- purpose of personal protective clothing and/or equipment
- correct operating procedures for equipment
- safe and effective handling of equipment
- cleaning requirements and procedures for work area and equipment
- environmental issues and controls
- reporting and recording requirements and procedures
- procedures and responsibilities for reporting problems and anomalies
- waste disposal requirements and procedures

- safe preparation and handling of chemicals
- purpose and benefit of pre- and post-callusing treatments
- pre-callusing treatment procedures
- post-callusing treatment procedures
- principles of nursery hygiene
- procedures for preparing pre-mixed callusing media
- factors in a controlled callusing environment that affect the vine cutting
- procedures for maintaining callusing environment
- common problems that occur during callusing and how they should be resolved (e.g. uneven callusing or evidence of dehydrated cuttings on arrival)
- quality control process in the callusing environment.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • observe hygiene and housekeeping standards including correct cleaning and sterilisation of work area, equipment and boxes • prepare callusing media and boxes to specification • prepare cuttings and apply pre-callusing treatment correctly • place cuttings into callusing boxes correctly • monitor and maintain callusing environment to specification • monitor cuttings for correct callusing and report problems according to procedures • apply post-callusing treatment correctly • remove callused cuttings correctly • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required • documentation, recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDSs) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	Equipment may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • thermometer • hydrothermometer • hydraulic bin • trolley or trailer • personal protective clothing and/or equipment • forklift
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • cuttings • callusing media • rooting hormone • boxes • pallets
Contamination	<p>Contamination may include:</p> <ul style="list-style-type: none"> • pests • diseases • viruses
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • callusing media • damaged cuttings • callusing containers
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • obstacles • inhaling callusing media • operating equipment • using chemicals and disinfectants
Label information	<p>Label information may include:</p> <ul style="list-style-type: none"> • clone • variety • rootstock • date placed into callusing room • date to be removed • treatments applied • source of rootstock and scion
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • evidence of crown gall • dehydration

RANGE STATEMENT	
	<ul style="list-style-type: none"> • fungal infection • physical damage • graft union failure • excessive galling
Records	Records will include: <ul style="list-style-type: none"> • treatments applied • clones • variety • source • batch numbers • numbers of vines in callus boxes • numbers of boxes packed • date of callusing

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2006A Obtain and process rootlings

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the processing of vine rootlings in wine grape nurseries including, where required, digging of rootlings from field nurseries.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to wine grape growing and covers the processing of rootlings. Rootlings may include those developed from cuttings in a sand bed or callusing room, or those freshly dug from a field nursery.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to process rootlings	<p>1.1 Work instructions for the processing of rootlings are confirmed and understood</p> <p>1.2 Facilities are cleaned and sterilised to minimise risk of contamination</p> <p>1.3 Materials are confirmed as available and ready to meet requirements</p> <p>1.4 Equipment is collected and checked for serviceability and sterilised as required by workplace procedures</p> <p>1.5 Potential and existing hazards are identified, rectified and/or reported according to workplace procedures</p>
2. Obtain rootlings	<p>2.1 Requirement for rootlings from field nurseries, sand beds or callusing are checked against instructions</p> <p>2.2 Rootlings if required are dug from field nurseries using tractor mounted or trailed digging machines or hand-held tools</p> <p>2.3 Rootlings are obtained from sand beds or callusing room according to requirements</p>
3. Process rootlings	<p>3.1 Rootlings are treated and bundled according to instructions</p> <p>3.2 Bundles are labelled, packed and stored according to instructions</p> <p>3.3 Waste is collected and disposed of according to workplace procedures</p> <p>3.4 Work is conducted in accordance with workplace environmental guidelines</p> <p>3.5 Problems and anomalies are identified, rectified and/or reported according to workplace procedures</p> <p>3.6 Safe work practices are employed to minimise work hazards</p>
4. Prepare rootlings for dispatch	<p>4.1 Bundles of rootlings are assembled according to instructions</p> <p>4.2 Rootlings are prepared and packed for dispatch according to instructions</p> <p>4.3 Stock is loaded for dispatch according to instructions</p> <p>4.4 Orders are checked against goods being dispatched according to workplace procedures</p> <p>4.5 Safe work practices are employed to minimise work hazards</p>
5. Record information	<p>5.1 Workplace information is recorded in the appropriate format</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify rootling processing requirements
- confirm supply of necessary materials
- liaise with other work areas
- select, fit and use appropriate personal protective clothing and/or equipment
- select, operate, maintain and store required equipment according to instructions
- maintain work area and equipment to meet workplace housekeeping and hygiene standards
- use appropriate cleaning techniques
- recognise problems and anomalies and correct and/or report them as instructed
- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- select and use materials as required
- prepare chemical treatments to required concentration and ensure a homogenous mix
- handle rootlings correctly
- treat rootlings as instructed. This may include:
 - complete hydration of all rootlings
 - complete chemical treatment of all rootlings
 - removal of unwanted plant material
- monitor the standard of rootlings and grade them as instructed. This may include sorting for:
 - diameter of stem
 - appearance
 - length and number of shoots
 - strength of graft union
- bundle and label rootlings as instructed. This may include:
 - ensure correct numbers per bundle
 - lay rootlings all the same way in bundles
 - tie bundles securely
 - label legibly and accurately
- pack and store rootlings as instructed. This may include meeting instructions for:
 - cold room layout
 - cold room temperature variations
 - customer requirements
 - storage time requirements

- collect and dispose of waste as required to minimise risk of environmental damage
- check stock against orders. This may include checking order requirements for:
 - quantity of stock
 - varieties and clones
 - quality of stock is within specifications
- dispatch stock as instructed. This may include:
 - correct manual handling
 - correct use of mechanical transfer equipment
- liaise with customers. This may include:
 - taking orders
 - notifying customers about availability of stock
 - notifying customers about dispatch dates
 - identifying specific treatments of stock
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- occupational health and safety (OHS) hazards and controls
- purpose and application of personal protective clothing and/or equipment
- correct operating procedures for equipment
- safe and effective handling of equipment
- principles of nursery hygiene
- cleaning requirements and procedures for work area and equipment
- reporting and recording requirements and procedures
- procedures and responsibilities for reporting problems and anomalies
- waste disposal requirements and procedures
- environmental issues and controls
- equipment operation and maintenance requirements and procedures
- safe preparation and handling of chemicals
- common features of healthy vine rootlings
- common features of unhealthy vine rootlings
- factors that influence how a rootling should be graded and why
- package, storage requirements and procedures for rootlings ready for sale
- rootling preparation requirements and procedures for sales or transfers to customers.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, (MSDS and follow other specified OHS procedures • handle chemicals and disinfectants correctly • select and mix chemical treatments to required concentrations • sterilise equipment and work surfaces to instructions • obtain rootlings correctly from required sources (e.g. field nursery, sand beds or callusing room) • treat, bundle, store and label rootlings correctly • identify and report problems and anomalies • treat and dispose of waste correctly • keep appropriate records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and

EVIDENCE GUIDE	
	procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Wine grape nursery facilities	<p>Wine grape nursery facilities may include:</p> <ul style="list-style-type: none"> • cold storage • bins • water

RANGE STATEMENT	
	<ul style="list-style-type: none"> • fungicide treatment areas • storage bins or tanks • soakage tanks
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • secateurs • personal protective clothing and/or equipment • bins • boxes • counting machine • packing machine • forklift
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • string • labels • chemicals • sand • wax • pallets
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • off-cuts • dropped or rejected rootlings • packaging materials
Work hazards	<p>Work hazards may include:</p> <ul style="list-style-type: none"> • damaging fingers or eyes from use of tools and equipment • manual handling • lifting bundles • falling over in an untidy work area • using chemicals and disinfectants
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • evidence of nematodes • crown gall • dehydration • infection • physical damage • damaged buds • immature wood

RANGE STATEMENT	
Rootlings	<p>Rootlings may include:</p> <ul style="list-style-type: none"> • those developed from cuttings in a sand bed or callusing room • those freshly dug from a field nursery
Grading rootlings	<p>Grading rootlings may include sorting for:</p> <ul style="list-style-type: none"> • diameter of stem • appearance • length of shoots • number of shoots • strength of graft union
Label information	<p>Label information may include:</p> <ul style="list-style-type: none"> • class of the material • variety and clone • grade of cutting • the source identification code • name of customer • date packed
Treatments	<p>Treatments may include:</p> <ul style="list-style-type: none"> • hydration • chemical treatment • trimming • grading
Customer requirements	<p>Customer requirements may include:</p> <ul style="list-style-type: none"> • quantity • level of root trimming • level of shoot trimming
Packing	<p>Packing may include:</p> <ul style="list-style-type: none"> • packing, venting and sealing cuttings into polythene film bags • wrapping cuttings in wet hessian • packing in woven polypropylene wool packs
Loading of rootlings	<p>Loading of rootlings may be:</p> <ul style="list-style-type: none"> • done manually or with the use of a forklift
Records	<p>Records will include:</p> <ul style="list-style-type: none"> • number of rootlings per bundle

RANGE STATEMENT

- number of bundles
- treatments
- date

Unit Sector(s)**Unit sector**

Wine operations

FDFWGG2007A Tend containerised nursery plants

Modification History

This unit supersedes and is equivalent to FDFWGGTCPB Tender containerised nursery plants.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialised unit has been developed for wine grape nurseries. It covers the skills and knowledge required to tend containerised nursery plants under supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the tending of containerised plants in wine grape nurseries. Tending includes maintaining of nursery facilities and equipment, carrying out specified treatment on plants, and sterilisation of specified equipment. All work is carried out according to instructions.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Maintain nursery facilities	1.1 Work instructions on tending nursery plants are confirmed and understood 1.2 Irrigation system is maintained according to instructions 1.3 Temperature controls are checked according to workplace procedures 1.4 Potential and existing hazards are identified, rectified and/or reported according to workplace procedures 1.5 Nursery hygiene requirements are followed to minimise risk of contamination
2. Treat plants to maintain growth	2.1 Common problems are recognised and reported according to instructions 2.2 Equipment and tools are selected and used according to workplace procedures 2.3 Materials are confirmed as available and ready to meet requirements 2.4 Treatments are applied according to instructions 2.5 Water is applied according to instructions 2.6 Safe work practices are followed to minimise potential and existing hazards
3. Carry out post-treatment operations	3.1 Waste is collected and disposed of according to workplace procedures 3.2 Equipment is shut down, cleaned and stored according to workplace procedures 3.3 Facilities are cleaned and sterilised according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify plant tending requirements
- confirm supply of necessary materials
- liaise with other work areas and customers
- select, fit and use appropriate personal protective clothing and/or equipment
- identify, rectify and/or report environmental non-compliance
- select, operate, maintain and store required equipment according to instructions
- maintain work area and equipment to meet workplace housekeeping standards
- maintain work area and equipment to meet workplace hygiene standards. This may include:
 - removing weeds
 - removing dead or diseased plant materials
 - washing work area on transfer of plants
 - disinfecting tools, equipment and work areas
 - using foot baths on entry to different work areas
- use appropriate cleaning techniques
- recognise problems and anomalies and correct and/or report them as instructed
- maintain workplace records
- maintain irrigation system. This may include:
 - fixing blockages
 - servicing irrigation system components
 - identifying and reporting faulty components in an irrigation system
 - fixing leaking heads and hoses
- recognise under-performance of the irrigation system. This may include identifying:
 - dry spots
 - water dumping
 - abnormal water flow
- prepare and use equipment. This may include:
 - calibrating equipment
 - carrying out pre-operational checks
 - cleaning equipment
 - applying particular settings
- prepare chemical treatments to required concentration and ensure a homogeneous mix
- shut down equipment as instructed

- interpret chemical labels
- interpret Material Safety Data Sheets (MSDS) information
- collect and dispose of waste as instructed
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- purpose and application of personal protective clothing and/or equipment
- correct operating procedures for equipment
- safe and effective handling procedures for equipment
- cleaning requirements and procedures for work area and equipment
- reporting and recording requirements and procedures
- procedures and responsibilities for reporting problems and anomalies
- waste disposal requirements and procedures
- safe preparation and handling of chemicals
- principles of nursery hygiene
- workplace hygiene requirements
- common problems that may occur with potted plants in a controlled environment
- treatment practices and techniques for common problems
- principles and operations of a range of irrigation systems used in nurseries
- environmental requirements of plants growing in a nursery setting.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • follow hygiene procedures • select, mix and apply chemical treatments according to instructions • correctly sterilise equipment • monitor irrigation system and correct or report faults • water and monitor plants to instructions.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • MSDS • manufacturer instructions • product labels • Integrated Pest Management programs • verbal directions from manager, supervisor, or senior operator
Wine grape facilities	<p>Wine grape nursery facilities may include:</p> <ul style="list-style-type: none"> • glasshouses • shade houses • hardening-off areas
Equipment	Equipment may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • secateurs • water spray containers • dibblers • rubbish bins, • tractors, • knapsack sprayers • spray carts • forklift
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • fertilisers • fungicides • insecticides • pallets
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • diseased or damaged plant material • potting mix • pots • unused chemicals and chemical containers
Work hazards	<p>Work hazards may include:</p> <ul style="list-style-type: none"> • use of chemicals and disinfectants • sharp tools • obstacles • sun exposure • operating spray equipment
Irrigation system components	<p>Irrigation system components may include:</p> <ul style="list-style-type: none"> • pump • sprinkler • sprinkler heads • solenoids • filters • controllers • sprayers and drippers
Irrigation systems	<p>Irrigation systems may include:</p> <ul style="list-style-type: none"> • ebb and flow • sprinklers • capillary beds • sprayers and drippers

RANGE STATEMENT	
Problems and anomalies	<p>Common problems and anomalies may include:</p> <ul style="list-style-type: none"> • dehydration • pests • diseases • nutrient deficiencies • deformed plants • inefficient irrigation system • environmental parameters outside acceptable range • equipment breakdown
Treatments	<p>Treatments may include:</p> <ul style="list-style-type: none"> • pesticides • fungicides • fertilisers • removing weeds • canopy management • altering environmental parameters
Records	<p>Records will include:</p> <ul style="list-style-type: none"> • date • environmental parameters • treatments applied • rate of treatments • name of operator

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2008A Train vines

Modification History

This unit supersedes and is equivalent to FDFWGGTVB Train vines.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to train growing vines by hand.
------------------------	---

Application of the Unit

Application of the unit	This unit covers the training of vines used in winemaking using a variety of handheld hand or operated equipment. The unit requires knowledge of the different parts of a grape vine, the ability to detect problems and anomalies, and to use techniques for selection and training of laterals.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. Prepare for training	1.1 Equipment is confirmed as available and ready for use 1.2 Materials are confirmed as available to meet training requirements
2. Train vines	2.1 Vines are trained according to instructions 2.2 Anomalies and problems are recognised, rectified and/or reported 2.3 Equipment is maintained in good working order
3. Complete training activities	3.1 Equipment is cleaned and stored according to workplace procedures 3.2 Waste generated by both the process and cleaning procedures is collected, treated, disposed of or recycled according to workplace procedures 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify training requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- set up and operate equipment as required according to instructions
- identify different parts of the grapevine. This should include identifying:
 - vine trunk and permanent framework
 - canes and/or cordons
 - tendrils and buds
 - fruit
- recognise and rectify or report problems and anomalies
- identify, rectify and/or report environmental non-compliance
- train vines according to instructions. This may include:
 - heading height
 - selection of appropriate laterals
 - positioning of laterals
 - securing of laterals
 - removing unwanted laterals from trunk and crown
- maintain work area to meet housekeeping standards
- clean and store equipment according to instructions
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- safe and effective handling of equipment
- correct operating procedures for equipment
- basic maintenance requirements and procedures for equipment
- purpose and application of personal protective clothing and/or equipment
- Occupational health and safety (OHS) hazards and controls
- procedures and responsibility for reporting problems and anomalies

- range of vine training techniques, features and benefits
- basic components of the vine
- training requirements and procedures
- common vineyard pests and diseases and other common vine problems
- environmental issues and controls
- cleaning and storage requirements and procedures for equipment
- reporting responsibilities and procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • identify parts of vines, including laterals, canes, cordons and buds • train vines to instructions • recognise faults and anomalies • keep records according to procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • snips • tape guns
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • strings • stakes • wires • tape
Method of training	Method of training may vary according to workplace

RANGE STATEMENT	
	<p>need, but may include:</p> <ul style="list-style-type: none"> • unilateral or bilateral techniques
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • uneven growth • pests and diseases • dead vines • broken trellis or wires
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • vine trimmings • faulty materials • packaging

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2009A Operate specialised canopy management equipment

Modification History

This unit supersedes and is equivalent to FDFWGGCMSB Operate specialised canopy management equipment.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to attach, set up, operate and detach canopy management equipment.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the operation of specialised equipment used in wine grape growing.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	AHCMOM202A Operate tractors
---------------------------	-----------------------------

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for canopy management activities	1.1 Canopy management requirements are identified and planned 1.2 Canopy management equipment is confirmed as available and ready for use 1.3 Equipment is set up to meet requirements
2. Operate canopy management equipment	2.1 Equipment is started up according to workplace procedures 2.2 Canopy management techniques are applied to vines according to their vigour, capacity and manager's instructions 2.3 Equipment performance is monitored to confirm performance is maintained within specifications 2.4 Canopy management activities are monitored to confirm performance is maintained within specifications 2.5 Out-of-specification performance is identified, rectified and/or reported
3. Shut down canopy management equipment	3.1 Canopy management equipment is shut down according to workplace procedures 3.2 Equipment is cleaned and stored according to workplace procedures 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify canopy management requirements
- select, fit and use personal protective clothing and/or equipment
- liaise with other work areas
- identify canopy management requirements. Factors to be considered include:
 - grape variety
 - vine vigour
 - end use of fruit, quality and yield requirements
 - climate
 - operating conditions
 - workplace procedures, manager's instructions
- attach equipment to tractor
- set up equipment to meet requirements
- confirm equipment status and condition
- operate equipment to meet requirements
- recognise equipment performance problems and rectify and/or report according to workplace procedures
- monitor canopy management activities. This will include monitoring:
 - width of canopy
 - speed of tractor and power take-off rpm
 - density of foliage
 - air circulation
 - light penetration or shade
 - bud numbers, spur length
 - vine damage
 - progress
 - problems and anomalies
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- clean and store equipment
- detach equipment from tractor
- use appropriate cleaning techniques
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record problems and/or corrective action

- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- maintain work area to meet housekeeping standards
- carry out routine maintenance of equipment according to enterprise procedures
- use hand tools according to enterprise procedures
- use power tools according to enterprise procedures
- interpret mechanical drawings according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- key factors affecting the canopy management technique adopted. These may include:
 - climate, forecast and current weather conditions
 - vineyard aspect and terrain
 - grape variety and vigour
 - grape quality and characteristics required
 - trellis design
 - harvesting techniques
 - disease risk and occurrence
 - stage of maturity and development
- operating parameters and procedures
- recognition of correct vine growth stages at which to carry out canopy management activities
- factors influencing vine vigour, including:
 - grape variety
 - trellis design
 - vine spacing
 - fertilisers
 - irrigation
 - rootstock
- features and benefits of a range of canopy management styles and techniques and their respective affect on grape quality, cropping yield and wine production requirements. This should include techniques to manage:
 - light penetration and shading
 - air circulation and disease reduction
 - annual growth stages of vine development
 - crop quality and quantity

- significance and method of monitoring canopy management activities
- purpose and basic components of canopy management equipment
- operational procedures for equipment
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- basic vine canopy problems or anomalies
- procedures and responsibility for reporting problems
- cleaning and storage requirements and procedures for equipment
- shutdown sequence
- routine maintenance procedures for equipment where relevant
- procedures for using hand tools where relevant
- procedures for using power tools where relevant
- interpretation of mechanical drawings where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • select and confirm availability of equipment and prepare according to instructions • attach, set up equipment to meet requirements • start and operate equipment in accordance with operation instructions and requirements of workplace and task • perform emergency and routine shutdowns • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • sort, collect, treat, recycle or dispose of waste • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Polices and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal directions from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> tractor circular saws cutter bars

RANGE STATEMENT	
	<ul style="list-style-type: none"> • blades • knives • drum pruners • mechanical leaf pluckers • wire lifters
Terrain	<p>Terrain must enable safe and effective operation of equipment. It may include:</p> <ul style="list-style-type: none"> • tracks • access roads • vineyard rows • open paddocks • flat, undulating, steep, hilly or terraced land • and on- and off-road environments
Conditions	<p>Conditions must enable safe and effective operation of equipment. These may include:</p> <ul style="list-style-type: none"> • dry • wet • slippery • boggy • icy • foggy • windy • day and night conditions
Confirming equipment status	<p>Confirming equipment status will include:</p> <ul style="list-style-type: none"> • checking that all safety standards and pre-start requirements are met and that equipment is operational
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Canopy management techniques	<p>Canopy management techniques may vary and should include:</p> <ul style="list-style-type: none"> • those required by the workplace (e.g. pruning, trimming, plucking and lifting)
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • dead vines • signs of common pests and diseases, such as light brown apple moth (LBAM), boring insects, mildew,

RANGE STATEMENT

	<p>eutypa, phomopsis, dying arm, crown gall and diseased wood</p> <ul style="list-style-type: none">• signs of trellis and/or irrigation disrepair or problems• machinery breakdowns
--	---

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2010A Field graft vines

Modification History

This unit supersedes and is equivalent to FDFWGGFGVB Field graft vines.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. This unit covers the skills and knowledge required to select appropriate vine material and field graft vines.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to work conducted in the field to select and prepare vines for grafting and complete grafting activities. It includes application of treatment as required.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. Prepare to field graft vines	1.1 Materials are confirmed and available to meet grafting requirements 1.2 Vine material is selected and prepared for grafting 1.3 Equipment is checked to confirm readiness for use
2. Field graft vines	2.1 Vines are field grafted according to instructions 2.2 Vine graft is treated and taped according to instructions 2.3 Grafting process and equipment are monitored to ensure results are maintained within specifications 2.4 Out-of-specification process and equipment performance are identified, rectified and/or reported
3. Complete field grafting activities	3.1 Equipment is cleaned as required 3.2 Unused grafting material is disposed of or stored according to workplace procedures 3.3 Waste generated by both the grafting and cleaning procedures is collected, treated, disposed of or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines 3.5 Required documentation is completed

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify grafting requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas and customers
- confirm supply of necessary materials
- select appropriate vine material for grafting. This may include consideration of:
 - variety and clone
 - matching cambium
 - matching bevels and sizes
 - viable buds
 - achievement of tight unions
- prepare vine material for grafting. This may include:
 - soaking buds
 - working appropriate incisions
 - hot water treatment of cuttings
 - virus tests
 - compatibility tests
 - hydration of cuttings
 - cutting to size
- select and prepare equipment as required
- graft vines in the field according to instructions. This should include:
 - selecting appropriate bud location to graft
 - ensuring cohesion of graft union
- operate equipment safely
- treat vines after grafting. This may include:
 - applying fungicide
 - securing with tape
 - painting
 - waxing
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring:
 - percentage take
 - weather conditions

- pests and diseases (e.g. weevils)
- store unused grafting material
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- sort, collect, treat, recycle or dispose of waste as required
- maintain work area to meet housekeeping standards
- Clean equipment after use
- identify, rectify and/or report environmental non-compliance
- conduct routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose of grafting and various methods of budding and grafting
- criteria for successful grafting
- advantages of using clonal rootstock material
- criteria for selecting parent vines for scion material
- correct procedure and optimum conditions for the storage and handling of material until required for grafting
- advantages of using clonal and registered vine improvement material
- importance of selection and use of rootstock
- stages of the grafting procedure and their purpose
- common problems and corrective action required
- purpose, components and operation of grafting equipment
- methods of callusing vine cuttings and the criteria for best callus development
- procedures and responsibilities for reporting problems
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- cleaning requirements for work area and equipment
- recording requirements and procedures
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • select and prepare appropriate vine material for grafting, including disbudding • field graft vines to instructions • conduct post-grafting treatment and packing of vines • monitor grafted vines and identify and rectify or report out-of-specification grafted vines • follow personal and work area hygiene procedures • dispose of waste correctly • record and report results of grafting according to procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of

EVIDENCE GUIDE	
	competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Grafting methods	<p>Grafting methods may include:</p> <ul style="list-style-type: none"> • T buds • chip • wedge • side bark
Equipment	Equipment may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • secateurs • grafting knife
Grafting seals	Grafting seals may include: <ul style="list-style-type: none"> • tape • fungicides • paint • wax
Materials	Materials may include: <ul style="list-style-type: none"> • cuttings • buds • dormant or green material • nursery rootstock rootlings • mature vines for Vinifera varietal topworking
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Confirming equipment status	Confirming equipment status will include: <ul style="list-style-type: none"> • checking that safety standards and pre-start requirements are met and that equipment is operational
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2011A Install irrigation components

Modification History

This unit supersedes and is equivalent to FDFWGGICB Install irrigation components.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector This unit covers the skills and knowledge required to install vineyard irrigation components under supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the installation of irrigation components designed to irrigate vines.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. Prepare for installation of irrigation components	1.1 Equipment is checked to confirm readiness for use 1.2 Materials are selected according to instructions 1.3 Irrigation components are laid out in accordance with instructions 1.4 Trenches are dug or tidied up in accordance with instructions where required
2. Install irrigation components	2.1 Pipeline is joined or finished according to instructions 2.2 Components are added or inserted according to instructions 2.3 Lines are positioned and secured according to instructions 2.4 Problems and anomalies are recognised and reported
3. Complete installation activities	3.1 Equipment is cleaned and stored according to instructions 3.2 Materials are stored according to instructions 3.3 Waste is collected and disposed of or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify installation requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- check equipment is ready for use
- select appropriate materials
- lay out irrigation components according to instructions. This may include:
 - spacing
 - type, specification
 - numbers
 - positioning
 - safe handling procedures
- dig trenches according to instructions. This is likely to be tidying up after a mechanical digger and would include:
 - depth
 - slope
 - removal of anything that may damage irrigation pipes or affect flow
- operate equipment according to instructions
- join or finish pipeline according to instructions. This may include:
 - gluing and sealing
 - tying off ends
 - changing pipe sizes
 - T joins
 - elbows
- add or insert components according to instructions. This includes:
 - spacing
 - fitting specifications
 - fixing method
- position and secure lines according to instructions. This may include:
 - height
 - frequency and quality of ties
 - tying off ends
 - consideration of anything that may damage or affect performance of the irrigation system
- recognise, rectify and/or report problems and anomalies with component installation

- identify, rectify and/or report environmental non-compliance
- collect, sort, treat, dispose of and/or recycle waste
- clean and store equipment according to instructions
- use appropriate cleaning techniques
- store unused materials
- maintain work area to meet housekeeping standards
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose, features and components of the irrigation system
- irrigation installation process and procedures
- common faults, problems and how to solve them
- safe handling of materials and equipment
- purpose and application of personal protective clothing and/or equipment
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems and anomalies
- cleaning and storage requirements of equipment
- storage requirements of materials.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • carry out irrigation installation according to instructions • lay out lines according to instructions • collect and recycle or dispose of waste according to procedures.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • work notes • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • trenching equipment • shovels • mole grips • hand tools
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • pipe • glue • tape • joiners • elbows • T pieces

RANGE STATEMENT	
	<ul style="list-style-type: none"> • other irrigation parts
Irrigation components	<p>Irrigation components include:</p> <ul style="list-style-type: none"> • drippers • joiners • pipelines • drip lines • sprinklers • filters • microjets • pumps • furrows • valves
Irrigation systems	<p>Irrigation systems may include:</p> <ul style="list-style-type: none"> • flood • dripper • overhead • water winch
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • pipe lengths • broken or faulty components

Unit Sector(s)

Application of the unit	This unit applies to the installation of irrigation components designed to irrigate vines.
--------------------------------	--

FDFWGG2012A Identify and treat nursery plant disorders

Modification History

This unit supersedes and is equivalent to FDFWGGIPDB Identify and treat nursery plant disorders.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for wine grape nurseries. It covers the skills and knowledge required to recognise common nursery plant disorders, monitor and record the severity of the disorder and apply a range of treatments.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the identification of common disorders and treatment using chemical and cultural controls.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and prepare to treat plant disorders	<p>1.1 Work instructions on identifying and treating plant disorders are confirmed and understood</p> <p>1.2 Disorders commonly occurring in a particular work environment are identified according to workplace procedures</p> <p>1.3 Details of disorder are recorded and reported according to workplace procedures</p> <p>1.4 Treatment method is selected as instructed</p> <p>1.5 Materials are confirmed as available and ready to meet requirements</p> <p>1.6 Equipment is collected and checked for serviceability according to workplace procedures</p> <p>1.7 Potential and existing hazards are identified, rectified and/or reported according to workplace procedures</p>
2. Treat disorders	<p>2.1 Treatments are prepared according to instructions</p> <p>2.2 Equipment is prepared according to workplace procedures</p> <p>2.3 Treatments are applied according to instructions</p> <p>2.4 Problems and anomalies are identified, rectified and/or reported according to workplace procedures</p> <p>2.5 Safe work practices are employed to minimise work hazards</p>
3. Carry out post-treatment operations	<p>3.1 Waste is collected and disposed of according to workplace procedures</p> <p>3.2 Equipment is shut down, cleaned and stored according to workplace procedures</p> <p>3.3 Work is conducted in accordance with workplace environmental guidelines</p>
4. Record information	<p>4.1 Workplace information is recorded in the appropriate format</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify and treat nursery plant disorders
- confirm supply of necessary materials
- liaise with other work areas
- select, fit and use appropriate personal protective clothing and/or equipment
- select, operate, maintain and store required equipment according to instructions
- maintain work area and equipment to meet workplace housekeeping standards
- maintain work area and equipment to meet workplace hygiene standards
- use appropriate cleaning techniques
- recognise problems and anomalies and correct and/or report them as instructed
- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- recognise common plant disorders occurring in vine nurseries
- recognise the stage of the life cycle of the pest, disease or weed
- implement appropriate control measures as instructed
- prepare chemical treatments. This may include:
 - setting up application equipment
 - measuring chemical rates
 - mixing chemical to ensure homogenous mix
 - interpreting chemical label information
 - interpreting Material Safety Data Sheet (MSDS) information
- prepare equipment. This may include:
 - calibrating equipment
 - cleaning equipment
 - applying particular settings
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- Occupational health and safety (OHS) hazards and controls
- purpose and application of personal protective clothing and/or equipment
- principles of nursery hygiene
- correct operating procedures for equipment
- safe and effective handling of equipment
- safe preparation and handling of chemicals
- cleaning requirements and procedures for work area and equipment
- reporting and recording requirements and procedures
- procedures and responsibilities for reporting problems and anomalies
- waste disposal requirements and procedures
- environmental issues and controls
- characteristics of common vine disorders
- life cycles of common vine disorders
- different types of control measures and their uses
- principles of integrated pest management (IPM)
- regulations affecting the application of chemicals.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures, including safe handling of chemicals • identify common plant disorders and effectively implement corrective action • select, mix and apply chemical treatments according to instructions.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • MSDS • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Common disorders	<p>Common disorders may include:</p> <ul style="list-style-type: none"> • insects • vermin • root disorders • leaf disorders • nutritional disorders • weeds • salinity • dehydration

RANGE STATEMENT	
Treatments	<p>Treatments may include:</p> <ul style="list-style-type: none"> • chemical treatments, such as insecticides, fungicides, herbicides, hormones, pheromones and baits • cultural control, such as cultivation, canopy management, mulching, companion planting, windbreaks and irrigation
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • tractors • spray carts • motorbikes • knapsack sprayers • irrigation system • hand hoes • fertiliser spreaders • mulchers • cultivators • forklifts
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • preparation and application of chemicals • obstacles from untidy work area • exposure to heat • manual handling • use of machinery
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • plant material with a disorder • unused chemicals • empty chemical containers
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • uneven application of chemicals • equipment breakdown
Records	<p>Records will include:</p> <ul style="list-style-type: none"> • types of disorders • extent of disorders • types of treatments applied • rates of treatment applied • date • name of operator

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2013A Deliver injection requirements

Modification History

This unit supersedes and is equivalent to FDFWGGIRB Deliver injection requirements.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to deliver injection requirements via an irrigation system according to instructions
------------------------	--

Application of the Unit

Application of the unit	This unit applies to employees who inject various materials for delivery via equipment used to irrigate vines. Material to be injected may be wet or dry and includes fertilisers, chlorine, acid and cleaning agents. Identification of and calculation of the amount to be injected is included. The unit covers injection into various types of irrigation equipment, including flood, dripper, microjet, sprinkler, overhead and water winch. Injection of materials must be consistent with environmental and occupational health and safety (OHS) requirements.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment for operation	1.1 Materials and services are confirmed as available and ready for operation 1.2 Materials are prepared to meet injection requirements 1.3 Equipment is checked to confirm readiness for use 1.4 Equipment is set to meet injection requirements
2. Operate the injection process	2.1 The injection process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Out-of-specification equipment performance is identified, rectified and/or reported 2.4 Injection requirements are delivered according to instructions 2.5 Equipment is maintained in good working order
3. Shut down injection equipment	3.1 Injection equipment is shut down according to workplace procedures 3.2 Injection equipment is cleaned according to workplace procedures 3.3 Waste generated by both the process and cleaning procedures is collected, treated, disposed of or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify injection requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary services and materials
- liaise with other work areas
- identify, rectify and/or report environmental non-compliance
- detect and prepare injection materials as required. This may include the accurate completion of calculations, such as dilution rates
- confirm equipment status and condition
- set up and start up the process. This can involve the use of process control systems
- monitor the process and system operation to identify out-of-specification results or non-compliance. This can involve monitoring:
 - usage rates
 - dilution
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- maintain work area to meet housekeeping standards
- demonstrate safe handling of hazardous chemicals
- implement routine maintenance and minor repairs of the system
- implement routine system cleaning requirements
- apply information technology systems according to enterprise procedures
- apply sampling techniques according to enterprise procedures
- conduct routine tests according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge include:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of chemicals used and their effect on irrigation system or vine performance. This should include the effect of miscalculations and inaccurate deliveries
- purpose and operation of equipment and instrumentation components
- basic operating principles and process control systems where relevant
- services required
- control points and significance and methods of monitoring
- common causes of variation and corrective action required
- process specifications, procedures and operating parameters
- correct chemical handling techniques
- OHS hazards and controls
- lock-out and tag-out procedures
- environmental issues and controls
- procedures and responsibility for reporting problems
- cleaning requirements of system
- maintenance requirements of system
- shutdown sequence
- recording requirements and procedures
- cleaning procedures
- information technology systems where relevant
- sampling techniques and procedures where relevant
- routine testing procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • correctly select and prepare injection materials • correctly pre-start checks of equipment • start injection process correctly • monitor injection process control points and equipment, including checking for environmental compliance, usage rates and dilution • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • handle and/or remove waste in accordance with specified procedures • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal directions from manager, supervisor or senior operator
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that all safety standards and pre-start requirements are met and equipment is operational checking the operation and/or calibration of

RANGE STATEMENT	
	measuring instrumentation
Services	Services may include: <ul style="list-style-type: none"> • water and power
Monitoring the process	Monitoring the process may involve: <ul style="list-style-type: none"> • the use of production data, such as performance control charts
Process operation and monitoring functions	Process operation and monitoring functions may be: <ul style="list-style-type: none"> • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes: <ul style="list-style-type: none"> • quality and regulatory control points • inspection points
Irrigation systems	Irrigation systems may include: <ul style="list-style-type: none"> • flood • dripper • microjet • sprinkler • overhead • water winch
Materials to be injected	Materials to be injected may be wet or dry and may include, but are not restricted to: <ul style="list-style-type: none"> • fertilisers • chlorine • acid • cleaning agents
Equipment	Equipment may include: <ul style="list-style-type: none"> • injection pump • injection point • chemical holding tank
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based and may include information technology for injection scheduling systems, recording and reporting systems
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWGG2014A Operate the irrigation system

Modification History

This unit supersedes and is equivalent to FDFWGGISB Operate the irrigation system.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to operate the irrigation system and implement the irrigation system maintenance schedule according to instructions. It may include the supervision of maintenance personnel.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to employees who operate equipment used to irrigate vines used in winemaking. The unit covers the operation of various types of irrigation equipment, including flood, dripper, microjet, sprinkler, overhead and water winch. Operation of irrigation must be consistent with environmental and occupational health and safety (OHS) requirements and to irrigation specification.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the irrigation system for operation	1.1 Services are confirmed as available and ready for use 1.2 System is checked to confirm readiness for use 1.3 System is set to meet irrigation requirements
2. Operate the irrigation system	2.1 The irrigation system is started up according to workplace procedures 2.2 Control points are monitored to confirm that performance is maintained within specification 2.3 Out-of-specification system performance is identified, rectified and/or reported 2.4 Irrigation requirements are delivered according to instructions
3. Complete operation of the irrigation system	3.1 Irrigation system is shut down according to workplace procedures 3.2 Waste generated by both the process and cleaning procedures is collected, treated, disposed of or recycled according to workplace procedures 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Implement maintenance procedures for the irrigation system	4.1 Maintenance personnel are instructed as required 4.2 Irrigation system cleaning and maintenance activities are monitored to confirm performance is maintained within specification 4.3 Out-of-specification performance is identified, rectified and/or reported 4.4 Irrigation system cleaning and maintenance activities are implemented according to instructions 4.5 Problems and anomalies are identified, corrected and/or reported
5. Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify irrigation requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary services and materials
- identify, rectify and/or report environmental non-compliance
- liaise with other work areas
- confirm equipment status and condition
- set up and start up the process. This can involve the use of process control systems
- monitor the process and system operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - application rates
 - irrigation times
 - dripper output
 - pressure variations
 - salinity levels and water quality
 - depth of irrigation
 - maintenance requirements and procedures
 - cleaning requirements and procedures
 - maintenance operator progress or performance
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- maintain work area to meet housekeeping standards
- use appropriate cleaning techniques
- implement routine maintenance and minor repairs of the system
- implement routine system cleaning requirements
- supervise others according to enterprise procedures
- apply information technology systems according to enterprise procedures
- apply sampling techniques according to enterprise procedures
- conduct routine tests according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor

- work cooperatively within a culturally diverse workforce.

Required knowledge

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- principles, purpose and benefits of different irrigation techniques and schedules and their affect on vine growth and grape and/or wine quality. This should include partial rootzone drying (PRD)
- soil characteristics as they apply to vine irrigation. These may include:
 - structure
 - compaction
 - condition
 - texture
 - moisture
- basic vine physiology in relation to the irrigation system, which may include:
 - transpiration
 - water intake
 - nutrient uptake
 - photosynthesis
 - respiration
 - translocation
- parts of the root, trunk, shoot and fruit systems of the grape vine, their role in how the vine works and their contribution to fruit quality, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunch, berries and flowers
- vine types, their characteristics and uses, including:
 - family, genus and species
 - *Vitis vinifera* and commercial varieties
 - native species and hybrids (e.g. *labrusca*)
 - rootstocks and scion stock
- industry processes for new variety development
- annual grape vine growth stages, including:
 - budburst
 - flowering
 - veraison
 - maturity
- key grape varieties and their distinguishing features. This may include factors, such as:

- berry and bunch characteristics
- frost and disease resistance
- flavour and style
- purpose and operation of irrigation system and instrumentation components
- basic operating principles and process control systems where relevant
- services required
- control points and significance and methods of monitoring
- common causes of variation and corrective action required
- process specifications, procedures and operating parameters
- OHS hazards and controls
- lock-out and tag-out procedures
- environmental issues and controls
- procedures and responsibility for reporting problems
- cleaning requirements and procedures for the system
- maintenance requirements and procedures for the system
- shutdown sequence
- recording requirements and procedures
- supervision techniques where relevant
- information technology systems where relevant
- sampling techniques and procedures where relevant
- routine testing procedures where relevant.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • correctly select and prepare irrigation equipment including performing pre-start checks • set equipment correctly to achieve specified irrigation time, application rate and pressure • start irrigation process correctly • monitor irrigation process control points and equipment, including checking for environmental compliance • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal directions from manager, supervisor or senior operator
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> checking that all safety standards and pre-start requirements are met and that equipment is operational

RANGE STATEMENT	
	<ul style="list-style-type: none"> checking the operation and/or calibration of measuring instrumentation
Services	<p>Services may include:</p> <ul style="list-style-type: none"> water power
Monitoring the process	<p>Monitoring the process may involve:</p> <ul style="list-style-type: none"> the use of production data, such as performance control charts
Process operation and monitoring functions	<p>Process operation and monitoring functions may be:</p> <ul style="list-style-type: none"> manual or involve the use of a process control system
Control points	<p>Control points refer to those key points in a work process that must be monitored and controlled. This includes:</p> <ul style="list-style-type: none"> quality and regulatory control points inspection points
Irrigation systems	<p>Irrigation systems may include:</p> <ul style="list-style-type: none"> flood dripper microjet sprinkler overhead water winch
Components of irrigation equipment	<p>Components of irrigation equipment may include:</p> <ul style="list-style-type: none"> drippers pipelines sprinklers filters microjets pumps furrows valves motors timers windmills
Maintenance and minor repairs	<p>Maintenance and minor repairs may include:</p> <ul style="list-style-type: none"> breakages leaks

RANGE STATEMENT	
	<ul style="list-style-type: none">• blocks• replacing drippers• making joins• filters and turbo keys• monitoring devices• priming pumps and motors
Information systems	Information systems may be: <ul style="list-style-type: none">• screen or print based and may include information technology, such as automatic moisture sensing systems and irrigation scheduling systems

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2015A Support mechanical harvesting operations

Modification History

This unit supersedes and is equivalent to FDFWGGMHSB Support mechanical harvesting operations.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of wine sector. It covers the skills and knowledge required to collect grapes from a mechanical harvester and deliver them to the receival point.
------------------------	---

Application of the Unit

Application of the unit	This unit includes the ability to attach, set up and detach equipment as required, and the support of activities from harvesting to preparation for receival.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	AHCMOM202A	Operate tractors
	FDFWGG2018A	Operate vineyard equipment

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for harvest support activities	1.1 Work requirements are identified 1.2 Equipment is checked to confirm readiness for use 1.3 Equipment is set up to meet harvest support requirements
2. Collect grapes from harvester	2.1 Tractor towing trailer or gondola is driven alongside mechanical harvester according to instructions 2.2 Collection activities are monitored to confirm performance is maintained within specification 2.3 Out-of-specification performance is recognised, rectified and/or reported 2.4 Problems and anomalies are recognised, rectified and/or reported 2.5 Equipment is maintained in good working order
3. Transfer grapes to receival point	3.1 Chemicals are added to grapes according to instructions 3.2 Grapes are delivered to receival point according to instructions
4. Complete harvest support activities	4.1 Equipment is cleaned according to workplace procedures 4.2 Waste generated by the process or cleaning procedures is collected, sorted and disposed of or recycled, according to workplace procedures 4.3 Work is conducted in accordance with workplace environmental guidelines
5. Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify harvest support requirements
- liaise with other work areas
- select, fit and use appropriate personal protective clothing and/or equipment
- select, attach and set up appropriate equipment
- carry out pre-operational checks of equipment according to workplace procedures
- operate equipment safely
- identify and rectify, remove and/or report potential occupational health and safety (OHS) hazards
- collect grapes from the discharge conveyer. This should include:
 - avoiding all contact with or damage to other machinery and equipment, vines, trellises or fences
 - safe handling of equipment
 - maintaining appropriate speed and distance
 - starting off and swapping over
 - changing rows
 - day-time and night-time harvesting
 - variety of harvesting conditions and varieties
- monitor grape collection activities. This may include monitoring:
 - equipment breakages or malfunction
 - vine or trellis damage
 - grape quality and quantity
 - matter other than grapes (MOG) collected
 - load weight
 - chemical application to fruit loads
 - collection accuracy of grapes
 - tipping accuracy of grapes at receival point
 - progress
 - congestion or backlog at receival point
 - performance according to specifications
- report and/or record problems and/or corrective action
- identify, rectify and/or report environmental non-compliance
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements

- handle, prepare and add chemicals according to instructions
- take the necessary action to protect fruit quality where possible. This may include parking fruit carriers in a shaded area
- deliver grapes to receival point according to instructions. This may include tipping the trailer or gondola
- maintain workplace records according to workplace standards
- maintain work area to meet housekeeping standards
- use appropriate cleaning techniques
- carry out routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- key factors that will affect grape and/or wine quality. This may include:
 - temperature
 - oxidation
 - MOG collected
 - speed of processing
 - chemical addition
- features and benefits of methods to preserve grape and/or wine quality
- common problems and anomalies
- procedures and operating parameters
- significance and methods of monitoring performance
- common faults and corrective action required
- OHS hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems
- recording requirements and procedures
- cleaning requirements associated with changeovers
- shutdown sequence of equipment
- cleaning procedures
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • confirm availability of specified materials and prepare according to instructions • select and confirm status and suitability of equipment • start and operate equipment in accordance with operation instructions and requirements of workplace and task • monitor harvesting operation to achieve specified result • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • sort, collect, treat, recycle or dispose of waste • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as

EVIDENCE GUIDE	
	<p>required</p> <ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> tractors

RANGE STATEMENT	
	<ul style="list-style-type: none"> • trailers • gondolas • grape bins • forklift
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • rotten, diseased, immature or over-ripe grapes • MOG • potential hazards for the harvester or operators
Terrain	<p>Terrain must enable the safe and effective performance of harvest support activities. It may include:</p> <ul style="list-style-type: none"> • tracks • access roads • straight or curving vineyard rows • flat, undulating, steep, hilly or terraced land • on- and off-road environments
Conditions	<p>Conditions must enable the safe and effective performance of harvest support activities. These may include:</p> <ul style="list-style-type: none"> • dry • wet • slippery • boggy • icy • foggy • windy • day and night conditions
Receival points	<p>Receival points may include:</p> <ul style="list-style-type: none"> • a winery • marshalling area • truck or loading bays
Equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that all safety standards and pre-start requirements are met and equipment is operational
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p>

RANGE STATEMENT

- chemical, dangerous or hazardous substances

Unit Sector(s)**Unit sector**

Wine operations

FDFWGG2016A Install and maintain vine trellis

Modification History

This unit supersedes and is equivalent to FDFWGGMVTB Install and maintain vine trellis. April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to install and maintain vine trellising.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to installing and maintaining trellises for vines used in winemaking. Trellises are installed and maintained according to written or verbal instructions. Equipment used is both manual and automatic.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for trellising activities	1.1 Existing trellises are checked for signs of disrepair 1.2 Equipment is prepared and checked to confirm readiness for use 1.3 Materials are selected according to instructions 1.4 Posts and supports are laid out according to instructions 1.5 Wire is run out according to instructions
2. Erect and maintain trellises	2.1 Equipment is started up and operated according to workplace procedures 2.2 Trellis ends and posts are erected and assemblies strained according to instructions 2.3 Foliage and trellis wires are attached and tensioned according to instructions 2.4 Trellis maintenance is carried out according to workplace procedures 2.5 Problems and anomalies are recognised, rectified and/or reported
3. Complete trellising activities	3.1 Equipment is shut down according to workplace procedures as required 3.2 Equipment is cleaned and stored according to workplace procedures 3.3 Materials are stored according to workplace procedures 3.4 Waste is collected and disposed of or recycled according to workplace procedures 3.5 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify trellis requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- select appropriate materials. This will include type and quantity
- check equipment and complete pre-start checks as required
- repair trellis according to workplace standards. This may include:
 - positioning and depth of posts and strainers
 - positioning and number of wires
 - tightness and grade of wire
- lay out posts and supports according to instructions. This may include:
 - spacing
 - type
 - numbers
 - positioning
 - safe handling procedures
- run out wire according to instructions. This will include:
 - securing of ends
 - safe handling procedures
 - cutting correct length
 - positioning
- operate equipment according to instructions
- erect trellis ends and assemblies according to instructions
- attach foliage and trellis wires according to instructions. This includes:
 - spacing
 - alignment
 - height
 - tension
 - fixing method
 - joining systems (e.g. wire knots)
- recognise, rectify and/or report problems and anomalies of trellis installation
- use hand tools
- collect, sort, treat, dispose of and/or recycle waste
- identify, rectify and/or report environmental non-compliance

- clean and store equipment according to instructions
- use appropriate cleaning techniques
- implement appropriate occupational health and safety (OHS) procedures
- store unused materials
- maintain work area to meet housekeeping standards
- conduct routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose, features and components of the trellis system
- trellis installation process and procedures
- common maintenance requirements of vineyard trellising and how to repair them
- common faults, problems and how to solve them
- safe handling of materials and equipment
- purpose and application of personal protective clothing and/or equipment
- OHS hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems and anomalies
- cleaning and storage requirements and procedures for equipment
- storage requirements and procedures for materials
- maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • carry out trellis repairs according to instructions • lay out posts and supports according to instructions • cut, cure, position and tension wires according to instructions • store unused materials correctly • collect and recycle or dispose of waste according to procedures.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • wire strainers • pliers • manual and mechanical post inserters • hammers • saws
Materials	Materials may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • wire • staples • posts
Trellis installation and maintenance	Trellis installation and maintenance includes: <ul style="list-style-type: none"> • supports • posts • strainers • wires
Waste	Waste may include: <ul style="list-style-type: none"> • wire lengths • broken or faulty posts and supports • faulty fastenings

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2017A Recognise disorders and identify pests and diseases

Modification History

This unit supersedes and is equivalent to FDFWGGPDDA Recognise disorders and identify pests and diseases.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to recognise symptoms of pests, diseases and plant disorders at all stages of vine growth, to identify pests and diseases, and to report details in a timely and effective manner to appropriate personnel.
------------------------	---

Application of the Unit

Application of the unit	This unit requires recognition of symptoms of vine disorders but does not require identification of causes, such as nutrient deficiency or toxicity.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor vine health	1.1 Vineyard is monitored according to workplace procedures 1.2 Pest and disease symptoms are recognised 1.3 Symptoms of plant disorders are recognised
2. Assess symptoms of vine pests, diseases and disorders	2.1 Pests or diseases are identified from symptoms 2.2 Severity of pest or disease infestation or plant disorder is identified 2.3 Spread of infestation or disorder is identified 2.4 Vineyard location of infestation or disorder is identified
3. Report to appropriate personnel	3.1 Details of pest or disease infestation are reported to appropriate personnel according to workplace procedures 3.2 Details of plant disorder are reported to appropriate personnel according to workplace procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify recognition and identification requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- implement monitoring procedures according to workplace requirements
- monitor the health and growth of vines. This may include monitoring:
 - environmental factors
 - cultural factors
 - signs of pests and diseases
 - signs of plant disorders
- identify different parts of the grapevine. This will include:
 - vine trunk and permanent framework
 - canes and/or cordons
 - tendrils and buds
 - fruit
- identify and describe common vineyard weed species
- identify and describe common pests and diseases, including:
 - light brown apple moth (LBAM)
 - powdery mildew
 - downy mildew
 - botrytis
 - mites
- recognise and report pest and disease activity or symptoms of plant disorders in an appropriate time for treatment to be timely and effective
- identify, rectify and/or report environmental non-compliance
- maintain work area to meet housekeeping standards
- clean and store equipment according to instructions
- operate information technology systems according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and

processes that are used in the particular winery or workplace.

Knowledge of:

- range of vine monitoring procedures, which may include manual and/or automated sampling and testing techniques
- basic vine physiology, as it applies to:
 - water intake
 - nutrient uptake
 - photosynthesis
 - transpiration, respiration
 - translocation
- parts of the root, trunk, shoot and fruit systems of the grapevine and their role in how the vine works, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunch, berries and flowers
 - Annual growth stages of grapevines, including:
 - budburst
 - flowering
 - veraison
 - maturity
- vine types, their characteristics and uses, including:
 - family, genus and species
 - *Vitis vinifera* and commercial varieties
 - native species and hybrids (e.g. *labrusca*)
 - root stocks and scion stock
- key grape varieties and their distinguishing features. This may include factors, such as:
 - berry and bunch characteristics
 - frost and disease resistance
 - flavour and style
- a range of common vine disorders, pests and diseases, according to workplace requirements
- influence on the occurrence and development of vine disorders, pests and diseases of climatic factors (e.g. wind speeds, rainfall levels, humidity, dry heat and hail)
- pest and disease tolerance thresholds
- vine disorder reporting requirements and procedures
- purpose and application of personal protective clothing and/or equipment
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- reporting responsibilities and procedures
- information technology systems where relevant

- basic principles of workplace's integrated pest management (IPM) program where relevant
- pest and disease resistance management strategies employed by the workplace where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • recognise symptoms of plant pests, diseases and disorders • identify location and extent of spread • determine severity of pests, diseases and disorders • report findings.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Monitoring procedures	<p>Vineyard monitoring procedures may include:</p> <ul style="list-style-type: none"> • monitoring techniques and monitoring schedules
Monitoring equipment	<p>Vineyard monitoring equipment may include:</p> <ul style="list-style-type: none"> • manual or automated sampling and testing kits, and pest and disease information
Pests and diseases	<p>Pests and diseases may include, but are not limited to:</p> <ul style="list-style-type: none"> • any form of vertebrate and invertebrate pest, weeds, and fungal, bacterial or viral disease • light brown apple moth (LBAM)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • powdery mildew • downy mildew • botrytis • mites
Reporting of pests and diseases	<p>Reporting details of pests and diseases may include:</p> <ul style="list-style-type: none"> • identification of pest or disease • location and quantity of affected plants • severity of attack • life cycle stage of pest • developmental stage of disease • number of pests • extent of disease on individual plants
Symptoms of plant disorders	<p>Symptoms of plant disorders may include:</p> <ul style="list-style-type: none"> • discolouration • stunted or abnormal plant parts • uneven growth or fruit set • dropping of plant parts (e.g. leaves and flowers) • general poor growth • burning off of extremities (e.g. tendrils and leaves) • weak or rotting plants parts (e.g. stems and fruit)
Reporting for plant disorders	<p>Reporting details for plant disorders may include:</p> <ul style="list-style-type: none"> • severity of symptoms • spread of symptoms • location of affected plants in vineyard • development of symptoms • any associated environmental or cultural factors that may be considered relevant (e.g. watering or fertilisation problems, mulch problems, recent vine work or treatment application)
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based and may include information technology systems, such as database of workplace or site pest, disease and disorder histories, symptom recognition and pest and disease identification aids, climatic information systems, work scheduling, reporting and recording systems

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWGG2018A Operate vineyard equipment

Modification History

This unit supersedes and is equivalent to FDFWGGVEQB Operate vineyard equipment.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to operate a range of vineyard equipment that does not require calibration. Where the operation of specialised equipment is required, alternative units should be selected.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the operation of equipment used in wine grape growing. It includes the ability to attach, set up and detach equipment as required.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment for operation	1.1 Requirements are interpreted and confirmed 1.2 Equipment is selected and checked to confirm readiness for use 1.3 Equipment is attached and set up according to instructions as required
2. Operate equipment	2.1 Equipment is started up according to workplace procedures 2.2 Equipment is operated according to workplace procedures 2.3 Equipment performance is monitored to confirm performance is maintained within specification 2.4 Out-of-specification equipment performance is identified, rectified and/or reported 2.5 Problems and anomalies are recognised and/or reported
3. Complete operation of equipment	3.1 Equipment is shut down according to workplace procedures 3.2 Equipment is prepared for cleaning and storage 3.3 Equipment is cleaned according to workplace procedures 3.4 Waste generated by both the activities and cleaning procedure is collected, treated and disposed of, or recycled according to workplace procedures 3.5 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas
- select appropriate equipment for the task
- confirm equipment status and condition. This may include checking:
 - fuel
 - water
 - oil (e.g. engine, gearbox and hydraulics)
 - belts
 - air intake
 - tyre pressure
 - metal fatigue or wear and tear
- attach equipment to towing vehicle as required
- set up equipment as required to meet operating instructions
- start up equipment
- operate equipment to meet operating instructions. This should include:
 - driving forward and reversing
 - operating in confined spaces
 - operating amongst other vineyard activities and a variety of conditions as required
- monitor equipment performance. This may include monitoring:
 - status and condition
 - handling and stopping ability
 - operating depth of equipment
 - blockages
 - ground speed or power take-off speed
 - width and/or coverage
 - environmental operating conditions
- recognise equipment performance problems and amend and/or report as instructed
- shut down equipment in response to emergency situations
- shut down equipment in response to routine shutdown requirements
- prepare equipment for cleaning and storage
- clean equipment

- store equipment according to instructions
- maintain work area to meet housekeeping standards
- collect, treat, recycle or dispose of waste according to workplace procedures
- identify, rectify and/or report environmental non-compliance
- use appropriate cleaning techniques
- maintain workplace records
- carry out routine maintenance of equipment according to enterprise procedures.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose, features and components of equipment
- equipment pre-start checks
- equipment operating procedures
- process specifications, procedures and operating parameters
- common causes of variation or malfunction and the corrective action required
- required weather conditions for equipment operation
- Occupational health and safety (OHS) hazards and controls in all operating conditions
- significance and methods of monitoring equipment performance
- lock-out and tag-out procedures
- recording requirements and procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- cleaning requirements of equipment associated with changeovers and types of shutdown
- cleaning procedures
- storage requirements
- shutdown sequence
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • select and confirm availability of equipment and prepare according to instructions • attach and set up equipment to meet requirements • start and operate equipment in accordance with operation instructions and requirements of workplace and task • perform emergency and routine shutdowns • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • sort, collect, treat, recycle or dispose of waste • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules instructions work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal direction from manager, supervisor or senior operator
Vineyard equipment	<p>Vineyard equipment may include, but is not limited to:</p> <ul style="list-style-type: none"> all terrain vehicles tractor mounted forklift front-end loader

RANGE STATEMENT	
	<ul style="list-style-type: none"> • towed equipment (e.g. gondola) • three point linkage equipment (e.g. discs) • power take-off driven equipment (e.g. slasher) • equipment with hydraulics (e.g. tipping trailer) • stationary equipment (e.g. pumps and generators)
Terrain	<p>Terrain, where applicable, must enable safe and effective operation of the equipment. It may include:</p> <ul style="list-style-type: none"> • tracks • access roads • vineyard rows • open paddocks • flat, undulating, steep, hilly or terraced land • on- and off road environments
Conditions	<p>Conditions, where applicable, must enable safe and effective operation of the equipment. These may include:</p> <ul style="list-style-type: none"> • dry • wet • slippery • boggy • icy • foggy • windy • day and night conditions
Loads	<p>Loads, where applicable, may range from:</p> <ul style="list-style-type: none"> • full to empty as required
Confirming equipment status	<p>Confirming equipment status will include:</p> <ul style="list-style-type: none"> • checking that all safety standards and pre- start requirements are met and equipment is operational
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWGG2019A Perform vertebrate pest control activities

Modification History

This unit supersedes and is equivalent to FDFWGGVPCB Perform vertebrate pest control activities.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to carry out vertebrate pest control activities without supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to work conducted to address pest infestations on vines. Depending on the pest control methods being used, this unit may need to be undertaken in conjunction with appropriate chemical handling and license related units (e.g. units in the Chem-Cert skill set).
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for vertebrate pest control activities	1.1 Equipment and materials are checked to ensure availability and readiness for use 1.2 Equipment is set up and calibrated to meet requirements as required 1.3 Materials are prepared as required
2. Carry out vertebrate pest control activities	2.1 Equipment is started up according to workplace procedures as required 2.2 Equipment performance is monitored to confirm performance is maintained within specifications 2.3 Vertebrate pest control activities are monitored to confirm performance is maintained within specifications 2.4 Out-of-specification performance is identified, rectified and/or reported 2.5 Equipment is maintained in good working order 2.6 Control measures are implemented according to instructions 2.7 Problems and anomalies are identified, corrected and/or reported
3. Complete vertebrate pest control activities	3.1 Equipment is shut down according to workplace procedures as required 3.2 Equipment is cleaned and stored according to workplace procedures 3.3 Waste generated by both the activities and the cleaning procedures is collected, treated, disposed of or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines 3.5 Unused materials are stored according to workplace procedures
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify vertebrate pest control requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- select, set up and operate equipment as required, according to instructions
- carry out vertebrate pest control activities according to instructions
- monitor vertebrate pest control activities. This may include monitoring:
 - material usage
 - occupational health and safety (OHS) hazards and controls
 - environmental conditions
 - success rate and/or progress
 - vertebrate pest response
 - problems and anomalies
 - equipment performance
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record problems and/or corrective action
- identify, rectify and/or report environmental non-compliance
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- clean equipment as required
- maintain work area to meet housekeeping standards
- collect, sort, dispose of or recycle waste according to workplace procedures
- store unused materials according to workplace procedures
- maintain records according to enterprise standards
- conduct routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- common vineyard vertebrate pests and their affect in the vineyard

- features and benefits of different types of vertebrate pest control measures
- correct operating procedures for equipment
- correct implementation procedures
- purpose and application of personal protective clothing and equipment
- OHS hazards and controls
- environmental issues associated with vertebrate pest control procedures and materials
- reporting and recording requirements and procedures
- procedures and responsibility for reporting problems and anomalies
- waste disposal requirements and procedures
- cleaning and storage requirements of equipment and unused materials
- shutdown sequence of equipment
- licensing requirements
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competency in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures, including safe handling of chemicals • identify common vertebrate pests and effectively implement corrective action • select and apply treatments and control measures according to instructions.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • work schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • rippers • fencing gear • scaring devices • guns • traps
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • guards • fencing materials

RANGE STATEMENT	
	<ul style="list-style-type: none"> • netting • gas cylinders • ammunition • bait and poison
Control measures	<p>Control measures may include:</p> <ul style="list-style-type: none"> • ripping • gassing • baiting • poisoning • shooting • bird- scaring activities • traps • guards • fencing
Vertebrate pests	<p>Vertebrate pests include:</p> <ul style="list-style-type: none"> • birds • rabbits • hares • kangaroos • mice and rats
Waste	<p>Waste includes:</p> <ul style="list-style-type: none"> • spent cartridges • empty containers • wire cuttings • cleaning water
Confirming equipment status	<p>Confirming equipment status will include:</p> <ul style="list-style-type: none"> • checking that safety standards and pre-start requirements are met and that equipment is operational
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWGG2020A Carry out hot water treatment

Modification History

This unit supersedes and is equivalent to FDFWGGHWTB Carry out hot water treatment.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for wine grape nurseries. It covers the skills and knowledge required to carry out hot water treatment of grape vine cuttings.
------------------------	--

Application of the Unit

Application of the unit	Working with vine cuttings includes the ability to recognise problems and anomalies with vines. People undertaking this unit of competency in the workplace will require accreditation by the <i>Australian Vine Improvement Association (AVIA)</i> .
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for hot water treatment	1.1 Work instructions on hot water treatments are confirmed and understood 1.2 Materials are confirmed as available and ready to meet requirements 1.3 Equipment is set up according to specifications 1.4 Water is prepared for cool down, hot water treatment and hydration according to specifications 1.5 Potential and existing hazards are identified, rectified and/or reported according to workplace procedures
2. Treat cuttings	2.1 Cuttings are dipped in the hot water according to AVIA protocols 2.2 The dipping process is monitored for compliance with AVIA specifications 2.3 Safe work procedures are followed to minimise risk of hazards
3. Carry out post-treatment procedures	3.1 Cuttings are cooled down according to AVIA protocols 3.2 Treated cuttings are stored according to AVIA and workplace procedures 3.3 Waste is collected and disposed of according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Treatment information is recorded according to AVIA requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information required to carry out hot water treatments
- confirm supply of necessary materials
- liaise with other work areas
- select, fit and use appropriate personal protective clothing and/or equipment
- select, operate, maintain and store required equipment according to instructions
- maintain work area and equipment to meet workplace housekeeping standards
- maintain work area and equipment to meet workplace hygiene standards
- use appropriate cleaning techniques
- recognise problems and anomalies and correct and/or report them as instructed
- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- set up equipment for hot water treatment. This will include:
 - placing correct volumes of water in the tanks
 - calibrating data loggers
 - calibrating temperature sensors against a certified thermometer
 - calibrating thermometers
- prepare water for cool down, hot water treatment and hydration. This will include:
 - testing and adjusting chlorination levels
 - checking and adjusting temperature levels
- prepare cuttings for treatment. This may include re-hydration
- dip cuttings, fully submersing for the specified amount of time, at the specified temperature in prepared hot water
- monitor the dipping process to ensure compliance with required specifications. This will include:
 - monitoring critical control points for compliance with specifications
 - analysing readouts from data logging devices
 - maintaining level of agitation in the tanks
 - maintaining chlorine level
 - recalibrating thermometers
- cool down cuttings in prepared cooling water immediately following hot water treatment. this is already mentioned above
- store treated cuttings. This will include:
 - separating from untreated cuttings to prevent contamination

- covering with clean covers
- placing cuttings in vented plastic bags to prevent dehydration
- placing cuttings in the cold room
- dispose of waste. This may include:
 - settling the water
 - racking off clean water
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose of hot water treatment
- importance of precise treatment
- consequences of mistreatment
- AVIA and workplace specifications for hot water treatments
- reasons for using different specifications for hot water treatments
- monitoring techniques to ensure temperature and water quality are within specifications
- quality assurance process for the hot water treatment process
- Occupational health and safety (OHS) hazards and controls when undertaking hot water treatments
- purpose and application of personal protective clothing and/or equipment
- correct operating procedures for equipment
- safe and effective handling of equipment
- principles of nursery hygiene
- cleaning requirements and procedures for work area and equipment
- environmental issues and controls
- waste disposal requirements and procedures
- reporting and recording requirements and procedures
- procedures and responsibilities for reporting problems and anomalies.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • follow hot water treatment safety procedures • apply AVIA standards to heat and cool cuttings • handle cuttings according to instructions • recognise vine problems • dispose of waste according to instructions • maintain required records.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • routine maintenance schedules • work notes • manufacturer instructions • verbal directions from manager or supervisor
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • hydration tanks • treatment tanks • cooling-off tanks • dipping apparatus • electronic data logging devices • monitoring apparatus • certified reference thermometer • dipping cages • appropriate personal protective clothing and/or equipment

RANGE STATEMENT	
	<ul style="list-style-type: none"> • forklift
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • cuttings • rootlings • water • chlorine
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • water • damaged plant material • sediment
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • heat sources • hot water • transferring vines • moving machinery • chlorine
Specifications	<p>Specifications will include:</p> <ul style="list-style-type: none"> • temperature range • length of time in a treatment • relative humidity • level of chlorination • amount of agitation required • quality of the water
Records	<p>Records will include:</p> <ul style="list-style-type: none"> • data logger print out • batch number • date of treatment • start and finish time of treatment • maximum temperature for treatments and cold room • minimum temperature for treatments and cold room • average temperatures for treatments and cold room • calibration information • name of operator

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWGG2021A Operate nursery cold storage facilities

Modification History

This unit supersedes and is equivalent to FDFWGGOCSB Operate nursery cold storage facilities.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for wine grape nurseries. It covers the skills and knowledge required to operate and monitor nursery cold storage facilities.
------------------------	---

Application of the Unit

Application of the unit	Application of this unit requires cold room operation in accordance with specifications and knowledge of occupational health and safety (OHS), environmental and hygiene requirements.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare cold room for storage	1.1 Work instructions are confirmed and understood 1.2 Cold room facilities are cleaned and sanitised according to workplace procedures 1.3 Cold room specifications are set according to workplace procedures 1.4 Potential and existing hazards are identified, rectified and/or reported according to workplace procedures
2. Operate cold room	2.1 Environmental specifications are monitored according to workplace procedures 2.2 Movement of stock is monitored according to cold room plan and workplace procedures 2.3 Problems and anomalies are identified, rectified and/or reported according to workplace procedures 2.4 Safe work practices are employed to minimise work hazards
3. Shut down cold room	3.1 Cold room is shut down according to workplace procedures 3.2 Cold room is cleaned and secured according to workplace procedures 3.3 Waste is collected and disposed of according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information required to operate cold storage facilities
- liaise with other work areas
- select, fit and use appropriate personal protective clothing and/or equipment
- select, operate, maintain and store required equipment according to instructions
- identify, rectify and/or report environmental non-compliance
- maintain work area and equipment to meet workplace housekeeping and hygiene standards
- use appropriate cleaning techniques
- recognise problems and anomalies and correct and/or report them as instructed
- follow safe work procedures to minimise hazards
- collect, treat and dispose of waste according to workplace procedures
- maintain workplace records
- interpret and apply cold room plan
- confirm equipment status and condition. This may include:
 - checking all safety standards
 - conducting pre-start checks
- move material in and out of cold room. This may include:
 - transferring stock manually
 - using a mechanical transfer device
- recognise equipment performance problems and amend and/or report as instructed
- monitor the health of cuttings during storage. This may include identifying:
 - signs of dehydration
 - signs of fungal infection
- monitor cold room facilities according to workplace procedures. This may include identifying:
 - temperature variations
 - humidity variations
 - air flow
- shut down equipment in response to emergency situations
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- OHS hazards and controls when working in a cold room
- environmental issues and controls
- principles of nursery hygiene
- purpose and application of personal protective clothing and/or equipment
- procedures and responsibility for reporting problems
- lock-out and tag-out procedures
- cleaning requirements and procedures
- reporting and recording requirements and procedures
- waste disposal requirements and procedures
- principles of cold room planning
- principles of cold room operation
- purpose and use of components of a cold room
- cold room equipment operating procedures
- shutdown sequence
- principles of maintaining cold room performance
- methods of maintaining cold room performance
- methods of monitoring a cold room
- methods of packing a cold room
- common causes of variation or malfunction and the corrective action required
- effect of cold storage on cuttings
- post-storage treatment of cuttings.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • observe housekeeping standards • monitor cold storage and stock conditions and make required adjustments • shut down, clean and secure cold storage facilities • recognise and act upon out-of-specification conditions • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal directions from manager, supervisor or senior operator
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • cleaning agents • unused stock
Potential hazards	<p>Potential hazards may include:</p> <ul style="list-style-type: none"> • cold room door closing while working inside • working in cold conditions • slippery floors • obstacles on the floor

RANGE STATEMENT	
	<ul style="list-style-type: none"> • overhead objects • operating forklifts and other moving objects
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • fluctuations in temperature • breakdown of data loggers • fans or temperature controls • inadequate air flows due to incorrect stacking
Cold room specifications	<p>Cold room specifications may include:</p> <ul style="list-style-type: none"> • temperature range • spacing pattern for airflow • humidity
Cold room plans	<p>Cold room plans may include:</p> <ul style="list-style-type: none"> • stacking patterns • stacking heights • movement of stock
Records	<p>Records will include:</p> <ul style="list-style-type: none"> • temperature logs • material entering or leaving cold room • batch numbers

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2022A Take and process vine cuttings

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for wine grape nurseries. It covers the skills and knowledge required to take and process vine cuttings under supervision.
------------------------	--

Application of the Unit

Application of the unit	This unit covers the taking of vine cuttings from vines used in wine making cuttings and processing. A variety of hand operated or handheld equipment is used. Working with vine cuttings includes the ability to recognise problems and anomalies with vines and to select the best cuttings according to instructions.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
----------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Take vine cuttings	1.1 Cutting requirements are confirmed and understood 1.2 Equipment is checked to confirm readiness for use 1.3 Vine cuttings are taken according to instructions 1.4 Vine anomalies and problems are recognised, rectified and/or reported 1.5 Equipment is maintained in good working order
2. Complete vine cutting operations	2.1 Vine cuttings are collected according to instructions 2.2 Equipment is cleaned and stored according to instructions 2.3 Waste is collected and disposed of according to instructions
3. Prepare to process cuttings	3.1 Work instructions on the processing of cuttings are confirmed and understood 3.2 Facilities are cleaned and sterilised to minimise risk of contamination 3.3 Materials are confirmed as available and ready to meet requirements 3.4 Equipment is collected and checked for serviceability and sterilised as required by workplace procedures 3.5 Potential and existing hazards are identified, rectified and/or reported according to workplace procedures 3.6 Work is conducted in accordance with workplace environmental guidelines
4. Process cuttings	4.1 Cuttings are treated and bundled according to instructions 4.2 Bundles are labelled, packed and stored according to instructions 4.3 Waste is collected and disposed of according to workplace procedures 4.4 Problems and anomalies are identified, rectified and/or reported according to workplace procedures 4.5 Safe work practices are employed to minimise work hazards
5. Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify cutting processing requirements
- confirm supply of necessary materials
- liaise with other work areas and customers
- select, fit and use appropriate personal protective clothing and/or equipment
- select, operate, maintain and store required equipment according to instructions
- maintain work area and equipment to meet workplace housekeeping standards
- maintain work area and equipment to meet workplace hygiene standards
- use appropriate cleaning techniques
- recognise problems and anomalies and correct and/or report them as instructed
- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- handle pruning secateurs safely. This includes following the correct handling and sharpening procedures
- recognise performance problems with secateurs and correct or report them as instructed. This includes oiling moving parts and sharpening blades
- identify different parts of the grapevine. This should include identifying:
 - vine trunk and permanent framework
 - canes and/or cordons
 - tendrils and buds
- select and take vine cuttings according to instructions. This may include:
 - correct length and diameter
 - correct number of buds on the cutting
 - degree of straightness
 - cuts made correctly and cleanly
 - top cut at 45° angle or bottom bud flat, 1-2 cm from nearest bud
 - number of buds left on the vine
- collect and store vine cuttings according to instructions. This may include:
 - numbers per bundle
 - all lying the same way in the bundle (basal and distal ends)
 - secure tying of bundles
 - labelling
 - maintaining hydration of cuttings
- prepare chemical treatments to required concentration and ensure homogenous mix

- treat cuttings as instructed. This may include:
 - completing hydration of all cuttings
 - completing chemical treatment of all cuttings
 - removing unwanted plant material
- monitor the standard of cuttings and grade them as instructed
- bundle and label cuttings as instructed. This may include:
 - including correct numbers per bundle
 - cuttings all lying the same way in the bundle
 - tying bundles securely
 - labelling legibly and accurately
- pack and store cuttings as instructed. This may include:
 - cold room layout
 - cold room temperature variations
 - customer requirements
 - storage time requirements
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- occupational health and safety (OHS) hazards and controls
- purpose and application of personal protective clothing and/or equipment
- correct operating procedures for equipment
- safe and effective handling of equipment
- cleaning requirements and procedures for work area and equipment
- reporting and recording requirements and procedures
- procedures and responsibilities for reporting problems and anomalies
- waste disposal requirements and procedures
- environmental issues and controls
- principles of nursery hygiene
- basic components of the vine
- basic vine problems and anomalies
- cutting requirements and procedures
- cutting collection and storage requirements, including hydration
- specifications of vine cuttings
- factors that influence how a cutting should be graded and why
- common features of healthy vine cuttings

- common features of unhealthy vine cuttings
- safe preparation and handling of chemicals.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment where required • follow cutting equipment safety procedures • select cuttings and cut according to instructions • handle, bundle, and label cuttings according to instructions • recognise vine problems • dispose of waste according to instructions • maintain required records.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Facilities	<p>Facilities may include:</p> <ul style="list-style-type: none"> • cold storage • fungicide treatment areas • storage bins or tanks • soakage tanks
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • secateurs

RANGE STATEMENT	
	<ul style="list-style-type: none"> • personal protective clothing and/or equipment • bins • boxes • packing machine • counting machine • forklift
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • string • labels • chemicals • sand • water • pallets
Waste	<p>Waste may include:</p> <ul style="list-style-type: none"> • off-cuts • dropped or rejected cuttings • packaging materials • chinisol • chemical containers
Work hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • damaging fingers or eyes from use of tools and equipment • manual handling • lifting bundles • falling over in an untidy work area • using chemicals and disinfectants
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • physical damage or signs of common pests and diseases, such as eutypa, phomopsis, nematodes, crown gall, diseased wood, dehydration, infection, physical damage, damaged buds, immature wood • different wood characteristics indicative of a different vine variety
Records	<p>Records will include:</p> <ul style="list-style-type: none"> • type of cuttings • quantity of cuttings • the count per bundle

RANGE STATEMENT	
	<ul style="list-style-type: none"> • number of bundles • treatments carried out • source identification code
Treatments	<p>Treatments may include:</p> <ul style="list-style-type: none"> • hydration • chemical treatment • trimming • grading
Grading	<p>Grading cuttings may include:</p> <ul style="list-style-type: none"> • sorting for length, diameter, appearance and number of viable buds
Label information	<p>Label information may include:</p> <ul style="list-style-type: none"> • class of the material • variety and clone • grade of cutting • the source identification code
Packing	<p>Packing may include:</p> <ul style="list-style-type: none"> • packing, venting and sealing cuttings into polythene film bags or packing bins • wrapping cuttings in wet hessian • packing in woven polypropylene wool packs

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2023A Carry out basic canopy maintenance

Modification History

This unit supersedes and is equivalent to FDFWGGCMBB Carry out basic canopy maintenance.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to carry out basic, manual vine canopy maintenance under regular supervision.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to maintaining of wine grapevine canopies. Work is carried out according to instructions and may involve use of both manual and motorised equipment. The unit also requires the ability to recognise problems and anomalies with equipment or vines while carrying out canopy maintenance.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to carry out basic canopy maintenance activities	1.1 Equipment is checked to confirm readiness for use 1.2 Canopy maintenance requirements are identified and confirmed
2. Position the vine canopy	2.1 Equipment is started up and operated according to instructions as required 2.2 Unwanted growth is removed according to instructions 2.3 Vine shoots are positioned according to instructions 2.4 Equipment is maintained in good working order
3. Control exposure of crop to sunlight	3.1 Control measures are applied according to instructions 3.2 Problems and anomalies are rectified and/or reported
4. Complete canopy maintenance activities	4.1 Equipment is shut down according to instructions as required 4.2 Equipment is cleaned and stored according to instructions 4.3 Vine cuttings are disposed of according to instructions 4.4 Work is conducted in accordance with workplace environmental guidelines
5. Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify canopy maintenance requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- handle equipment safely. This includes following the correct handling and sharpening procedures
- confirm equipment status and condition
- start up and operate equipment as required
- recognise performance problems with equipment and correct or report them as instructed. This includes oiling moving parts and sharpening blades
- identify different parts of the grapevine. This should include identifying:
 - vine trunk and permanent framework
 - canes and/or cordons
 - tendrils and buds
 - fruit
- position the vine canopy according to instructions. This includes:
 - identifying and removing unwanted growth
 - positioning spurs correctly
 - making cuts correctly and cleanly
 - manipulating the vines effectively without unnecessary damage to the vine
- control exposure of crop to light. This may include the positioning of foliage wires and shade cloth
- use appropriate cleaning techniques
- recognise and report problems and anomalies
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- identify, rectify and/or report environmental non-compliance
- clean and store equipment according to instructions
- maintain work area to meet housekeeping standards
- carry out routine preventive maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- safe handling procedures for equipment
- operating procedures for equipment
- purpose and application of personal protective clothing and/or equipment
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems and anomalies
- basic components of the vine
- basic vineyard problems and anomalies
- basic canopy management requirements
- purpose of canopy management activities
- cleaning and storage requirements and procedures for equipment
- shutdown sequence
- lock-out and tag-out procedures
- routine preventive maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • select and confirm availability of equipment and prepare according to instructions • identify and follow instructions for canopy maintenance • position vine shoots correctly, including removal of unwanted growth • use equipment according to OHS procedures and workplace instructions • implement measures to control exposure of canopy to sunlight according to instructions • report problems and anomalies with vines or equipment • correctly shut down and store equipment • dispose of waste according to instructions • complete workplace records.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • electrical, pneumatic, hydraulic or hand secateurs

RANGE STATEMENT	
	<ul style="list-style-type: none"> • knives • bare hands • petrol air compressors
Unwanted growth	<p>Unwanted growth may include:</p> <ul style="list-style-type: none"> • suckers • water shoots • congested shoots • excessive bunches
Vine canopy management	<p>Vine canopy management may include:</p> <ul style="list-style-type: none"> • minimal pruning • foliage wires • trellis systems
Control measures	<p>Control measures may include:</p> <ul style="list-style-type: none"> • leaf removal • shoot removal • applying or removing shade cloth • lifting and lowering of foliage wires • positioning shoots • trimming shoots • bunch thinning
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that all safety standards and pre-start requirements are met and equipment is operational
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • signs of common diseases and pests • mechanical damage • irrigation problems • trellis damage • frost and wind damage

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG2024A Pick grapes by hand

Modification History

This unit supersedes and is equivalent to FDFWGGPGHB Pick grapes by hand.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to pick grapes by hand under regular supervision.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to workers who pick grapes manually that are to be used in winemaking. The ability to select grapes for picking according to instructions and to recognise diseased, over-ripe or immature grapes is required.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. Prepare to pick grapes	1.1 Equipment is checked to confirm readiness for use 1.2 Picking requirements are identified and confirmed
2. Pick the grapes	2.1 Grapes are selected according to workplace requirements 2.2 Grapes are picked according to instructions 2.3 Picking schedules are met 2.4 Equipment is maintained in good working order 2.5 Problems and anomalies are rectified and/or reported
3. Complete picking operations	3.1 Equipment is cleaned and stored according to instructions 3.2 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify picking requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- handle equipment safely. This includes following the correct handling and sharpening procedures
- recognise performance problems with equipment and correct or report them as instructed. This includes oiling moving parts and sharpening blades
- select grape bunches according to workplace requirements. This may include the ability to recognise diseased, over-ripe or immature grapes
- pick grapes according to instructions. This may include:
 - making cuts correctly and cleanly
 - minimising damage to fruit and/or vine
 - collecting and emptying grapes as instructed
 - adhering to occupational health and safety (OHS) controls
- meet work schedules by ensuring that work practices are methodical and economical
- use appropriate cleaning techniques
- recognise and report problems and anomalies
- clean and store equipment according to instructions
- maintain work area to meet housekeeping standards
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- safe handling procedures for equipment
- basic components of the vine
- correct operating procedures for equipment
- maintenance requirements and methods for equipment
- purpose and application of personal protective clothing and/or equipment
- OHS hazards and controls, including:

- bending
- repetition strains
- lifting
- manual handling and tipping
- heat stress and sunburn
- procedures and responsibility for reporting problems and anomalies
- picking requirements and procedures
- basic problems and anomalies
- cleaning and storage requirements of equipment.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • handle cutting equipment correctly and safely • select grapes suitable for picking • recognise grapes that are unsuitable for picking • cut grape bunches according to specification with minimum damage to vine and grapes • pick grapes according to specified schedule.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • hand secateurs • knives • gloves • bags • containers
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • signs of common pests and diseases • mechanical damage

RANGE STATEMENT	
	<ul style="list-style-type: none">• damaged trellis and/or irrigation system• frost and wind damage• equipment malfunction
Grapes	Grapes may vary according to: <ul style="list-style-type: none">• grape variety• crop quality• quantity• trellis systems• collection methods

Unit Sector(s)

Not applicable.

FDFWGG2025A Plant vines by hand

Modification History

This unit supersedes and is equivalent to FDFWGGPVHB Plant vines by hand.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to hand plant vines.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the planting of grapevines that are to be used in winemaking. The unit covers planting of cuttings and rootlings. Planting is done to specifications and a variety of planting equipment and methods may be required.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plant vines	1.1 Equipment is started up according to workplace procedures as required 1.2 Equipment performance is monitored to confirm performance is maintained within specification as required 1.3 Equipment is maintained in good working order 1.4 Vines are planted in according to instructions 1.5 Problems and anomalies are recognised, rectified and/or reported
2. Complete planting operations	2.1 Equipment is shut down according to workplace procedures as required 2.2 Equipment is cleaned and stored according to workplace procedures 2.3 Waste generated by both the process and cleaning procedures is collected, treated, disposed of or recycled according to workplace procedures 2.4 Work is conducted in accordance with workplace environmental guidelines
3. Record information	3.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify planting requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- set up and operate planting equipment according to instructions, as required
- maintain vine material ready for use. This includes consideration of dehydration and contamination
- plant vines according to instructions. These may include specifications for:
 - spacing
 - row width
 - depth
 - soil preparation
 - rootling preparation
 - soil compaction
 - planting procedure
 - rootling health
 - correct disposal of waste material
 - cleaning and storage of equipment
- report and/or record problems and take corrective action
- shut down equipment in response to an emergency situation, as required
- shut down equipment in response to routine situations, as required
- identify, rectify and/or report environmental non-compliance
- maintain work area to meet housekeeping standards
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- safe and effective handling of equipment
- correct operating procedures for equipment
- purpose and application of personal protective clothing and/or equipment

- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems and anomalies
- soil characteristics as they apply to vine establishment. These may include:
 - structure
 - compaction
 - condition
 - present moisture
 - present nutrients and toxic factors
- parts of the vine
- planting requirements and procedures
- appearance and features of healthy vine planting material
- cleaning and storage requirements for equipment
- reporting responsibilities and procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • maintain vine material ready for use • identify specifications for planting, including spacing, row width and depth • plant vines according to specification • collect, sort, treat, recycle or dispose of waste • keep specified records.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • water jets • shovel • auger • tarpaulin • buckets • snips • water tanks
Materials	Materials may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • planting material (cuttings or rootlings) • sand • water
Method of planting	Method of planting may include: <ul style="list-style-type: none"> • water jets • shovel • auger holes
Confirming equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that safety standards and pre-start requirements are met and that equipment is operational
Problems and anomalies	Problems and anomalies may include: <ul style="list-style-type: none"> • evidence of pests • diseases or physical damage to planting material • plant material vigour • rock at planting depth
Waste	Waste may include: <ul style="list-style-type: none"> • trimmings • unhealthy planting material • packaging materials

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3001A Apply chemicals and biological agents

Modification History

This unit supersedes and is equivalent to FDFWGGCBAB Apply chemicals and biological agents.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to interpret a spraying schedule and then set up, calibrate and monitor spraying activities to meet those requirements, with limited consultation.
------------------------	--

Application of the Unit

Application of the unit	This unit covers the calculation and mixing of spray applications and the operation of the spraying equipment.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills
-----------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for spraying activities	1.1 Spraying schedule is interpreted correctly 1.2 Materials are confirmed as available and ready to meet spraying requirements 1.3 Equipment is checked to confirm readiness for use 1.4 Environmental conditions are checked and confirmed as acceptable 1.5 Sprays are prepared according to instructions 1.6 Equipment is calibrated and set up to deliver application requirements
2. Carry out spraying activities	2.1 Equipment is started up according to workplace procedures 2.2 Spraying activity is monitored to confirm that performance is maintained within specifications 2.3 Out-of-specification performance is identified, rectified and/or reported 2.4 Vineyard is sprayed according to schedule 2.5 Problems and anomalies are recognised and rectified and/or reported
3. Complete spraying activities	3.1 Spraying equipment is shut down according to workplace procedures 3.2 Spraying equipment is prepared for cleaning 3.3 Spraying equipment is cleaned according to workplace procedures 3.4 Unused chemicals are stored according to instructions 3.5 Waste generated by the process and cleaning procedures is collected, treated, disposed of or recycled according to workplace procedures 3.6 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information and interpret spraying schedules to identify spraying requirements. This may include:
 - identifying the correct block and vines
 - identifying requested equipment and materials
 - calculating required concentration, ground speed and application rate
 - identifying specific occupational health and safety (OHS) requirements and hazards
 - calculating area to be sprayed
 - identifying appropriate environmental conditions for specific spraying activity
 - identifying canopy coverage required
- select, fit and use personal protective clothing and/or equipment
- liaise with other work areas
- assess suitability of environmental conditions (e.g. wind speed and direction, rain and heat)
- confirm equipment status and condition. This may include checking hoses, nozzles, regulators, gauges, filters and pumps
- calibrate and set up sprayer and associated equipment to deliver spraying requirements
- mix sprays to required concentration and ensure homogenous mix
- handle sprays correctly
- operate spraying equipment and spray the vineyard according to instructions. This may include consideration of:
 - location
 - chemical used
 - application rate
 - OHS precautions
 - other vineyard personnel and neighbouring properties
 - existing and forecast weather conditions
- monitor spraying activities. This may include monitoring:
 - off-target damage
 - ground speed
 - estimated versus actual usage of chemicals
 - stock levels versus estimated requirements
 - OHS precautions
 - equipment performance and calibration

- weather conditions
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record problems and/or corrective action
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine requirements
- prepare equipment for cleaning
- sort, collect, recycle or dispose of waste according to workplace procedures
- identify, rectify and/or report environmental non-compliance
- maintain work area to meet housekeeping standards
- clean and store equipment
- maintain spray records according to workplace and industry standards
- operate information technology systems according to enterprise procedures
- conduct routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- range of common sprays, their purpose and the basic principles of how they work, including:
 - specified droplet size
 - suitability of application to production requirements, plant physiology and soil characteristics
- operating parameters and procedures
- chemical legislation relevant to immediate responsibilities
- basic vine physiology, where it applies to:
 - water intake
 - nutrient uptake
 - photosynthesis
 - respiration, transpiration
 - translocation
- parts of the root, trunk, shoot and fruit systems of the grapevine, their role in how the vine works and their contribution to fruit quality, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunch, berries and flowers
- vine types, their characteristics and uses, including:

- family, genus and species
- *Vitis vinifera* and commercial varieties
- native species and hybrids (e.g. *labrusca*)
- rootstocks and scion stock
- industry processes for new variety development
- annual grapevine growth stages, including:
 - budburst
 - flowering
 - veraison
 - maturity
- key grape varieties and their distinguishing features. This may include factors, such as:
 - berry and bunch characteristics
 - frost and disease resistance
 - flavour and style
- common pests and diseases and associated treatments
- licensing requirements
- required environmental conditions for safe and effective spraying operations
- safe handling and mixing of chemicals
- spray application calculations
- equipment set-up and calibration requirements and procedures, including:
 - droplet size and suitability of use
 - spray droplet spectrum and selection of nozzles
 - manufacturer specifications for nozzles
 - droplet behaviour and target coverage
- significance and method of monitoring spraying activities
- causes of off-target damage and how to minimise it
- purpose and components of spraying equipment
- common faults and corrective action required
- OHS hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems
- recording and reporting procedures and requirements
- cleaning requirements associated with changeovers and shutdowns
- shutdown sequence for spraying equipment
- cleaning procedures
- information technology systems where relevant
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment as required • correctly select and prepare spraying materials • correctly pre-start checks of equipment • prepare chemicals safely and according to specification • conduct spraying activity correctly • monitor spraying process and equipment, including checking for environmental compliance, usage rates and dilution • take corrective action in response to out-of-specification results or non-compliance • perform routine and emergency shutdowns • handle and/or remove waste in accordance with specified procedures • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • spray schedules • routine maintenance schedules • work notes • product labels • Material Safety Data Sheets (MSDS) • manufacturer instructions • integrated pest management (IPM) programs • verbal directions from manager, supervisor or senior operator
Equipment	Equipment may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spray plant (e.g. foliar spray units, booms, covered sprayers, back-pack and hand sprayers) • personal protective clothing and/or equipment
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • equipment spare parts and consumables • chemical sprays and ingredients
Sprays	<p>Sprays may include:</p> <ul style="list-style-type: none"> • foliar fertilisers • growth regulants • pheromones • pesticides • herbicides • fungicides • insecticides • molluscicides • miticides
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • suitable water supply
Terrain	<p>Terrain must enable safe and effective operation of equipment. It may include:</p> <ul style="list-style-type: none"> • tracks • access roads • vineyard rows • open paddocks • flat, undulating, steep, hilly or terraced land • on- and off-road environments.
Conditions	<p>Conditions must enable safe and effective operation of equipment. These may include:</p> <ul style="list-style-type: none"> • dry • wet • slippery • boggy • day and night conditions
Vineyard health problems	<p>Vineyard health problems may include:</p> <ul style="list-style-type: none"> • common pests (e.g. light brown apple moth (LBAM), vine moth, mealy bugs, garden weevil, borer, grasshopper, black beetle, weeds)

RANGE STATEMENT	
	<ul style="list-style-type: none"> diseases (e.g. powdery mildew, downy mildew, botrytis, phomopsis, eutypa and crown gall)
Waste	Waste may include: <ul style="list-style-type: none"> unused chemical mixture empty containers\washing water
Problems and anomalies	Problems and anomalies may include: <ul style="list-style-type: none"> change in environmental conditions obstructions hazards other work operations application rate equipment malfunction
Information systems	Information systems may be: <ul style="list-style-type: none"> print or screen based and may include information technology systems, such as weather forecasting, reporting and/or recording systems
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3002A Coordinate canopy management activities

Modification History

This unit supersedes and is equivalent to FDFWGGCCMA Coordinate canopy management activities.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to identify and implement manual and automated canopy management activities.
------------------------	--

Application of the Unit

Application of the unit	Coordination skills required in applying this unit involve facilitating a team.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for canopy management activities	1.1 Canopy management requirements are identified 1.2 Vine vigour and growth are assessed according to workplace procedures 1.3 Appropriate manual and/or automated canopy management techniques are selected 1.4 Equipment is confirmed as available and ready for use 1.5 Operators are instructed as required
2. Implement canopy management requirements	2.1 Canopy management activities are carried out according to vine vigour, growth guidelines and manager's instructions 2.2 Canopy management activities are monitored to confirm that performance is maintained within specification 2.3 Out-of-specification performance is identified, rectified and/or reported 2.4 Problems and anomalies are identified, corrected and/or reported
3. Record information	3.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify canopy management requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- identify, rectify and/or report environmental non-compliance
- implement canopy management requirements. This may include consideration of:
 - equipment and materials required
 - personnel required
 - location
 - transport
 - timing
 - environmental operating conditions
 - other vineyard activities (e.g. spraying)
- select appropriate canopy management techniques. This will include consideration of:
 - vine vigour
 - trellis design
 - grape variety
 - quality requirements
 - climate, current and forecast weather conditions
 - vineyard terrain and aspect
 - phenological development
 - workplace procedures and manager's instructions
- monitor canopy management activities. This may include monitoring:
 - removal of unwanted growth
 - positioning of vine shoots
 - cutting procedure and quality
 - manipulation and securing of vine
 - vine damage
 - exposure of crop to sunlight
 - addition and positioning of foliage wires or shade cloth
 - correct disposal of waste
 - cleaning and storage of equipment
 - problems and anomalies
 - equipment performance and maintenance

- team performance and progress
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record problems and/or corrective actions
- maintain canopy management records according to workplace standards
- facilitate and train teams and individuals
- conduct routine maintenance of equipment according to enterprise procedures
- apply information technology systems according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge include:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- basic vine physiology as it applies to:
 - water intake
 - nutrient uptake
 - photosynthesis
 - respiration, transpiration
 - translocation
- parts of the root, trunk, shoot and fruit systems of the grapevine, their role in how the vine works and their contribution to fruit quality, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunches, berries and flowers
- vine types, their characteristics and uses, including:
 - family, genus and species
 - *Vitis vinifera* and commercial varieties
 - native species and hybrids (e.g. *labrusca*)
 - rootstocks and scion stock
- industry processes for new variety development
- annual grapevine growth stages, including:
 - budburst
 - flowering
 - veraison
 - maturity
- key grape varieties and their distinguishing features. This may include factors, such as:

- berry and bunch characteristics
- frost and disease resistance
- flavour and style
- effects of vine canopy reduction and grape exposure on fruit and wine quality
- features and benefits of a range of manual and/or automated canopy management styles and techniques and their respective affect on grape quality, cropping yield and wine production requirements. This should include techniques to manage:
 - light penetration and shading
 - air circulation and disease reduction
 - phenological stages of vine development
 - crop quality and quantity
- factors influencing vine vigour, including:
 - grape variety
 - trellis design
 - vine spacing
 - fertilisers
 - irrigation
 - rootstock
- key factors affecting the canopy management technique adopted. These may include:
 - climate, forecast and current weather conditions
 - vineyard aspect and terrain
 - grape variety and vigour
 - grape quality and characteristics required
 - trellis design
 - harvesting techniques
 - disease risk and occurrence
 - stage of maturity and development
- recognition of correct vine growth stages at which to carry out canopy management activities
- significance and method of monitoring canopy management activities
- safe handling of equipment
- correct operating procedures for equipment
- purpose and application of personal protective clothing and/or equipment
- Occupational health and safety (OHS) hazards and controls
- identification of common problems and anomalies
- procedures and responsibility for reporting problems
- environmental issues and controls
- cleaning and storage requirements of equipment
- Reporting and recording requirements and procedures
- team facilitation and training techniques
- routine maintenance procedures for equipment where relevant
- information technology systems where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • determine requirements for canopy management according to vine vigour, growth guidelines and manager's instructions • select canopy management techniques • coordinate team activities to implement determined canopy management techniques • address problems and anomalies • complete workplace records.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • hydraulic or pneumatic pruners • a range of secateurs • knives • tractor • circular and hand saws • cutter bars • blades

RANGE STATEMENT	
	<ul style="list-style-type: none"> • drum pruners • mechanical leaf pluckers and wire lifters • bare hands • maintenance tools and team support equipment (e.g. toilet facilities, first aid box and spare equipment)
Unwanted growth	<p>Unwanted growth may include:</p> <ul style="list-style-type: none"> • suckers • water shoots • congested shoots • excess bunches
Canopy management systems	<p>Canopy management systems will vary with workplace requirements, but may include:</p> <ul style="list-style-type: none"> • vertically shoot positioned (VSP) • wide T • Scott Henry • single wire
Canopy management activities	<p>Canopy management activities may include:</p> <ul style="list-style-type: none"> • leaf removal • shoot removal • applying or removing shade cloth • lifting or lowering foliage wires • positioning shoots • trimming shoots • bunch thinning
Problems and anomalies	<p>Problems and anomalies include:</p> <ul style="list-style-type: none"> • signs of common pests and diseases, such as mildew, eutypa, phomopsis, boring insects, dying arm, crown gall, and diseased wood or berries • signs of trellis and/or irrigation disrepair or problems • machinery breakdown • team performance
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • screen or print based and may include information technology systems, such as recording and reporting, weather forecasting, rainfall maps and infrared canopy monitoring

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDWGG3003A Coordinate crop harvesting activities

Modification History

This unit supersedes and is equivalent to FDFWGGCHAB Coordinate crop harvesting activities.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to lead a team of hand pickers, including transporters, to implement a hand picking schedule.
-----------------	---

Application of the Unit

Application of the unit	Coordination skills required in the application of this unit will involve facilitating others.
-------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDWGG2024A	Pick grapes by hand

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for hand picking activities	1.1 Picking requirements are identified 1.2 Equipment is confirmed as available and ready for use 1.3 Pickers and transporter are instructed as required
2. Implement grape picking requirements	2.1 Picking activities are monitored to confirm performance is maintained within specifications 2.2 Out-of-specification performance is identified, rectified and/or reported 2.3 Equipment is maintained in good working order 2.4 Grapes are harvested according to crop level and quality and workplace procedures 2.5 Anomalies and problems are identified, corrected and/or reported 2.6 Work is conducted in accordance with workplace environmental guidelines
3. Transfer grapes to receival point	3.1 Chemicals are added to grapes according to requirements 3.2 Grapes are delivered to receival point according to instructions
4. Complete hand picking operations	4.3 Pickers are debriefed as appropriate
5. Record information	5.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify harvesting requirements (e.g. block, variety and quality)
- liaise with other work areas (e.g. winery)
- select, fit and use appropriate personal protective clothing and/or equipment
- identify, rectify and/or report environmental non-compliance
- implement grape picking activities. This may include consideration of:
 - equipment and materials required
 - location
 - transport
 - timing
 - environmental conditions
 - other vineyard activity
 - quality and quantity requirements
- monitor harvesting activities. This will include:
 - team efficiencies and safe working practices
 - grape quality
 - equipment operation
 - weather
 - actual versus required production
 - cleaning and storage of equipment
 - collection and disposal of waste
 - problems and anomalies
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action or non-compliance
- supervise and motivate a team of pickers to achieve production goals
- resolve conflicts as required
- instruct a team of pickers to achieve desired outcomes. This may include:
 - picking techniques
 - quality parameters
 - production requirements
 - occupational health and safety (OHS) hazards and precautions
 - working arrangements

- handle and add chemicals according to instructions as required
- take the necessary action to protect fruit quality where possible. This may include removal of matter other than grape (MOG)
- deliver fruit to receipt point according to instructions. This may involve the supervision of transport operators
- facilitate and train teams and individuals
- complete any necessary workplace records
- conduct routine maintenance of equipment according to enterprise procedures
- operate information technology systems according to enterprise procedures.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- effect of different climatic conditions on timing and management of harvest
- factors that affect grape ripening (e.g. canopy management, irrigation, grape variety and climatic conditions)
- factors that affect fruit and wine quality, including:
 - oxidation
 - temperature
 - MOG
- basic vine physiology, as it applies to:
 - water intake
 - nutrient uptake
 - photosynthesis
 - respiration, transpiration
 - translocation
- parts of the root, trunk, shoot and fruit systems of the grapevine, their role in how the vine works and their contribution to fruit quality, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunch, berries and flowers
- vine types, their characteristics and uses, including:
 - family, genus and species
 - *Vitis vinifera* and commercial varieties
 - native species and hybrids (e.g. *labrusca*)
 - rootstocks and scion stock
- industry processes for new variety development
- annual grapevine growth stages, including:
 - budburst

- flowering
- veraison
- maturity
- key grape varieties and their distinguishing features. This may include factors, such as:
 - berry and bunch characteristics
 - frost and disease resistance
 - flavour and style
- affect of fruit quality on wine
- quality assurance procedures and controls
- common problems and anomalies
- harvesting procedures and operating parameters. This may include picking grapes by hand, transporting grapes to the receival point and chemical treatment
- significance and method of monitoring team and equipment performance
- common faults and corrective action required
- OHS hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems
- cleaning requirements associated with changeovers
- team facilitation and training techniques
- handling conflicts
- cleaning procedures
- routine maintenance procedures for equipment where relevant
- information technology systems where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • determine requirements for crop harvesting according to crop level and quality • select harvesting techniques • coordinate activities to implement determined harvesting techniques • address problems and anomalies • complete workplace records.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • picking schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • tractors • trailers • gondolas • grape bins • forklift • snips • knives

RANGE STATEMENT	
	<ul style="list-style-type: none"> • gloves • bags • fruit containers • buckets • fruit bins • team support equipment (e.g. toilet facilities, first aid box, water and spare equipment)
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • rotten, diseased, immature or over-ripe grapes • equipment malfunction • team performance
Work requirements	<p>Work requirements may include:</p> <ul style="list-style-type: none"> • specification of block • variety • quality • timing • tonnage • speed • treatment
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based and may include information technology systems, such as email and fax communication, baumé testing equipment, weather forecasting, rainfall mapping systems, reporting and recording systems
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances
Grapes	<p>Grapes may vary according to:</p> <ul style="list-style-type: none"> • grape variety • crop quality • quantity • trellis systems • collection procedures
Team members	<p>Team members may include:</p> <ul style="list-style-type: none"> • people from a range of social, cultural and ethnic backgrounds and physical and mental abilities

Unit Sector(s)

Application of the unit	Coordination skills required in the application of this unit will involve facilitating others.
--------------------------------	--

FDFWGG3004A Coordinate nursery activities

Modification History

This unit supersedes and is equivalent to FDFWGGCNAB Coordinate nursery activities.

September 2012: clarified pre-requisite information.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for wine grape nurseries. It covers the skills and knowledge required to coordinate nursery personnel in a range of day-to-day activities.
------------------------	--

Application of the Unit

Application of the unit	This unit includes allocation and monitoring of individual performance targets and requirements.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFWGG2002A	Carry out potting operations
	FDFWGG2006A	Obtain and process rootlings
	FDFWGG3009A	Monitor and maintain nursery plants* <i>FDFWGG2007A Tend containerised nursery plants</i> <i>FDFWGG2012A Identify and treat nursery plant disorders</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to coordinate nursery activities	1.1 Activity goals and performance requirements are identified and clarified 1.2 Tasks required to achieve performance requirements are identified 1.3 Personnel required are confirmed as available and having the appropriate competence 1.4 Equipment is confirmed as available and ready for use 1.5 Materials are confirmed as available and ready to meet requirements
2. Coordinate nursery activities	2.1 Individual work tasks and roles are allocated to ensure activity goals and performance requirements are met 2.2 Work targets and timelines are negotiated to achieve activity goals and performance requirements 2.3 Activities are monitored to ensure compliance with workplace procedures on occupational health and safety (OHS), environmental and quality issues 2.4 Activities are monitored against timelines and performance requirements 2.5 Potential barriers to achieving targets and performance requirements are identified, rectified and/or reported
3. Complete coordination of nursery activities	3.1 Activities are monitored to ensure compliance with relevant workplace procedures on completion, shutdown and waste disposal 3.2 Work is conducted in accordance with workplace environmental guidelines 3.3 Personnel are debriefed as appropriate
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify nursery activity requirements
- confirm supply of necessary resources
- select, fit and use appropriate personal protective clothing and/or equipment
- identify, rectify and/or report environmental non-compliance
- liaise with other work areas and customers
- plan nursery activities. This may include considering:
 - personnel requirements
 - equipment and materials required
 - location
 - transport
 - timing
 - environmental conditions
 - other nursery activities
 - quality and quantity requirements
- instruct individuals and/or a group
- provide feedback to individuals and/or a group
- monitor nursery activities. This may include monitoring:
 - compliance with OHS, environmental and quality procedures
 - individual and/or team performance
 - achievement of targets, timelines and performance requirements
 - own and other team members' learning needs
 - compliance with completion, shutdown and waste disposal procedures
- resolve conflicts
- take corrective action in response to out-of-specification results or non-compliance
- recognise, correct and/or report problems and anomalies
- maintain workplace records
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and

processes that are used in the particular winery or workplace.

Knowledge of:

- workplace planning processes
- workplace activity scheduling processes
- OHS hazards and controls
- environmental issues and controls
- reporting and recording requirements and procedures
- procedures and responsibility for reporting problems and anomalies
- communication principles and strategies
- procedures for monitoring and reporting on individual and team performance
- competency identification and training arrangements
- conflict resolution, negotiation and problem-solving strategies.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • determine activities required of nursery and individuals in order to meet performance targets • allocate activities and monitor their implementation • provide leadership and instruction for nursery personnel • address performance issues • complete workplace records.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements, legislative requirements and industrial awards and agreements
Team practices	Team practices and work allocation occurs within the context of competency and licensing requirements and industrial agreements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Nursery activities	<p>Nursery activities may include:</p> <ul style="list-style-type: none"> • any activity undertaken within the wine grape nursery environment including preparing, conducting, monitoring and completing work in the establishment and care of wine grape vines
Goal and performance	Goal and performance requirements may be:

RANGE STATEMENT	
requirements	<ul style="list-style-type: none"> determined by organisation or departmental operational plans and customer requirements
Resources	Resources may include: <ul style="list-style-type: none"> personnel equipment materials
Records	Records will include: <ul style="list-style-type: none"> operational plans nursery activities personnel and maintenance records

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3005A Perform field nursery activities

Modification History

This unit supersedes and is equivalent to FDFWGGFNAB Perform field nursery activities.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. This unit covers the skills and knowledge required to plant, maintain and process field nursery vines.
------------------------	--

Application of the Unit

Application of the unit	This unit includes preparation for plantings, care of young vines and preparation for transfer and transportation.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for field nursery planting	1.1 Field nursery bed is prepared according to instructions 1.2 Field nursery maintenance infrastructure is checked to confirm readiness for use as required
2. Maintain field nursery vines	2.1 Appropriate vine protection methods are applied 2.2 Field nursery activities are carried out as instructed 2.3 Young vine growth and health are monitored according to instructions 2.4 Problems and anomalies are recognised, rectified and/or reported
3. Process field nursery rootlings for removal from nursery	3.1 Vine rootlings are undercut and lifted according to instructions 3.2 Rootlings are prepared for transport according to instructions 3.3 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify nursery requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas and customers
- prepare field nursery bed for planting. This may include:
 - herbicide treatment
 - soil cultivations
 - fertiliser additions
 - planning vine planting (e.g. number of vines, area size, varietal lots, row spacing for mechanical operations and row orientation)
 - application of weed matting
 - positioning irrigation pipes and points
 - checking readiness of maintenance infrastructure
- select and apply appropriate vine protection methods. This should include consideration of:
 - climate, weather and prevailing wind
 - vineyard pests (e.g. rabbits)
 - aspect, orientation of vineyard
 - irrigation or fertilisation schedule
 - frost incidence
- maintain and care for young vines
- monitor the health and growth of young vines. This may involve monitoring:
 - soil moisture
 - signs of disease and pests
 - water stress
 - signs of nutrient deficiency
 - growth rate
- take corrective action in response to out-of-specification growth or appearance, or non-compliance
- report and/or record corrective action as required
- identify, rectify and/or report environmental non-compliance
- use appropriate cleaning techniques
- maintain work area to meet housekeeping standards
- lift rootlings from the beds whilst ensuring minimal plant damage. This may include:

- roots undercut adequately
- gentle handling
- prepare rootlings for transport. This may include:
 - trimming
 - counting and bundling
 - labelling
 - grading
 - packing
- plant vines according to enterprise procedures
- take samples and conduct tests according to enterprise procedures
- conduct routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose, requirements and procedures for nursery bed preparation
- protection and maintenance requirements of young vines
- requirements of growing vines
- common causes and signs of young vine growth disorders and corrective action required
- Occupational health and safety (OHS) hazards and controls
- correct procedures and requirements for lifting vine rootlings from the nursery bed
- preparation requirements and procedures for transporting rootlings
- storage requirements of rootlings
- procedures and responsibility for reporting problems
- environmental issues and controls
- reporting and recording requirements and procedures
- planting procedures where relevant
- sampling and testing procedures where relevant
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • follow vine protection procedures • prepare for, implement and monitor nursery activities • prepare vine rootlings for transport • monitor the health of rootlings.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of

EVIDENCE GUIDE	
	circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Bed preparation	<p>Bed preparation may include, but is not limited to:</p> <ul style="list-style-type: none"> • cultivating • fertilising • planning layout
Maintenance infrastructure	<p>Maintenance infrastructure may include:</p> <ul style="list-style-type: none"> • irrigation or fertilisation equipment and components • windbreaks
Vine protection methods	<p>Vine protection methods include:</p> <ul style="list-style-type: none"> • waxing • windbreaks

RANGE STATEMENT	
	<ul style="list-style-type: none"> • row orientation • pest control
Maintenance activities	Maintenance activities include: <ul style="list-style-type: none"> • irrigation • fertilising • mulching • weed and pest control
Problems and anomalies	Problems and anomalies include: <ul style="list-style-type: none"> • signs of pests and diseases • equipment malfunction • rogue vines
Information systems	Information systems may be: <ul style="list-style-type: none"> • screen or print based
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3006A Coordinate hand pruning activities

Modification History

This unit supersedes and is equivalent to FDFWGGHPB Coordinate hand pruning activities.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. This unit covers the skills and knowledge required to identify and implement hand pruning requirements, including supervising a team of casual hand pruners.
------------------------	--

Application of the Unit

Application of the unit	Coordination skills required in the application of this unit will involve facilitating others.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFWGG2003A	Hand prune vines

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for hand pruning activities	1.1 Pruning requirements are identified 1.2 Appropriate pruning techniques are selected 1.3 Pruning equipment is confirmed as available and ready for use 1.4 Pruning equipment is set up to meet requirements 1.5 Operators are instructed as required
2. Implement hand pruning requirements	2.1 Pruning activities are monitored to confirm performance is maintained within specification 2.2 Out-of-specification performance is identified, rectified and/or reported 2.3 Vines are pruned according to crop levels, vine vigour and workplace procedures 2.4 Anomalies and problems are identified, corrected and/or reported 2.5 Work is conducted in accordance with workplace environmental guidelines
3. Record information	3.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify pruning requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- train and/or facilitate a team of hand pruners
- implement hand pruning requirements. This may include consideration of:
 - equipment and materials required
 - personnel required
 - location
 - transport
 - timing
 - environmental conditions
 - other vineyard activities (e.g. spraying)
- select appropriate pruning techniques. This will include consideration of:
 - grape variety
 - vine vigour
 - quality and yield requirements
 - climate
 - workplace procedures and manager's instructions
- monitor pruning activities. This will include monitoring:
 - selection of best possible spurs and canes
 - positioning of spurs and canes
 - clean removal of sucker shoots
 - correct quantity of spurs, rods, canes and buds left
 - cuts made correctly and cleanly
 - recognition and removal of unwanted growth
 - rolling and securing extension canes onto trellis wire as required
 - correct disposal of pruned material
 - equipment performance
 - cleaning and storage of equipment
 - team performance and progress
- identify problems and anomalies
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record problems and/or corrective action

- identify, rectify and/or report environmental non-compliance
- maintain work area to meet housekeeping standards
- maintain pruning records according to workplace standards
- conduct routine maintenance of equipment according to enterprise procedures
- apply information technology systems according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- basic vine physiology, as it applies to:
 - water intake
 - nutrient uptake
 - photosynthesis
 - respiration, transpiration
 - translocation
- parts of the root, trunk, shoot and fruit systems of the grapevine, their role in how the vine works and their contribution to fruit quality, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunch, berries and flowers
- vine types, their characteristics and uses, including:
 - family, genus and species
 - *Vitis Vinifera* and commercial varieties
 - native species and hybrids (e.g. *labrusca*)
 - rootstocks and scion stock
- industry processes for new variety development
- annual vine growth stages, including:
 - budburst
 - flowering
 - veraison
 - maturity
- key grape varieties and their distinguishing features. This may include factors, such as:
 - berry and bunch characteristics
 - frost and disease resistance

- flavour and style
- different types of pruning and their features, benefits and effects on grape quality
- relationship between bud numbers and cropping levels and the effect on wine quality
- effects of different pruning levels on wine quality
- concept of pruning to vine vigour
- safe handling of pruning equipment
- correct operating procedures for pruning equipment
- Occupational health and safety (OHS) hazards and controls
- common problems and anomalies associated with hand pruning activities
- procedures and responsibility for reporting problems
- cleaning and storage requirements of pruning equipment
- recording requirements and procedures
- team facilitation and training techniques
- environmental issues and controls
- routine maintenance procedures for equipment where relevant
- information technology systems where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • ensure use of personal protective clothing and equipment • determine requirements for hand pruning according to crop levels, vine vigour and workplace procedures • select hand pruning techniques • coordinate activities to implement determined hand pruning techniques • address problems and anomalies • complete workplace records.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • pneumatic secateurs • petrol air compressors • hydraulic snips • electronic secateurs • knives • saws • hand secateurs

RANGE STATEMENT	
	<ul style="list-style-type: none"> • maintenance tools • team support equipment (e.g. toilet facilities, first aid box, spare pruning equipment)
Pruning methods	<p>Pruning methods may include:</p> <ul style="list-style-type: none"> • spur pruning • cane pruning • rod and spur pruning • hand clean up after machine pruning
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • screen or print based and may include information technology systems, such as reporting, monitoring and recording, weather forecasting and rainfall mapping systems
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • dead vines • split cordon • extending cordon • poor bud position • signs of common pests and diseases, such as mildew, eutypa, phomopsis, boring insects, dying arm, crown gall or diseased wood

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3007A Implement an irrigation schedule

Modification History

This unit supersedes and is equivalent to FDFWGGISIB Implement an irrigation schedule.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. This unit covers the skills and knowledge required to monitor soil requirements and implement and evaluate a vineyard irrigation and/or injection schedule, including consultation with the manager.
------------------------	--

Application of the Unit

Application of the unit	The application of this unit is likely to require supervision of others and assessment of the impact of the irrigation and/or program on surrounding areas.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFWGG2014A	Operate the irrigation system

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor vineyard for irrigation requirements	1.1 Vineyard is monitored according to workplace procedures 1.2 Results are interpreted correctly 1.3 Appropriate irrigation activities are identified and recommended
2. Implement irrigation requirements	2.1 Resources are coordinated and personnel briefed to deliver requirements 2.2 Agreed irrigation schedule is implemented
3. Evaluate effectiveness of irrigation activities	3.1 Vineyard is monitored to evaluate effectiveness of irrigation activities 3.2 Surrounding areas are monitored to evaluate environmental impact of irrigation activities
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify irrigation requirements
- select, fit and use personal protective clothing and/or equipment
- liaise with other work areas
- consult with appropriate senior personnel or consultants
- monitor the vineyard and interpret the results to identify vineyard irrigation and/or injection requirements. Factors to be considered include:
 - soil moisture content
 - watertable level
 - water quality
 - signs of vine nutrient deficiencies
 - climatic conditions
 - frost risk
 - grape variety
 - soil type and depth
 - closeness to harvest
 - yield parameters
 - age of vine
 - grape quality requirements
 - symptoms of vine water stress
 - effective root depth
- calculate chemical application rates for injection requirements
- present and justify recommendations to senior personnel
- implement the irrigation and/or injection schedule. This may include consideration of:
 - resources, including operators with appropriate skills
 - application rates
 - timing and length
 - materials, chemicals and services
 - maintenance programs and supplies
 - interaction between different irrigation valves or shifts
- instruct irrigation system operators as required
- apply sampling techniques
- conduct routine tests

- monitor irrigation and/or injection activities. This may include:
 - measuring nitrogen output
 - measuring chlorine output
 - identifying soil moisture content and depth to which water will reach
 - identifying emitter output consistency
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record problems and/or corrective action taken
- evaluate effectiveness of irrigation activities
- evaluate environmental impact of irrigation activities
- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- maintain work area to meet housekeeping standards
- report and/or record problems according to instructions
- plan and organise
- apply information technology systems according to enterprise procedures
- calculate and present statistical data according to enterprise procedures
- write reports according to enterprise procedures
- facilitate teams according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- effect of irrigation techniques on vine growth, cropping levels and wine quality. This should include partial root zone drying (PRD) and regulated deficit irrigation (RDI)
- effect of a variety of injection methods on vine growth, cropping levels and wine quality
- effect of water and additives on vines during different key phenological stages
- visual symptoms of vine nutrient deficiencies, water stress and frost
- principles of soil moisture monitoring (e.g. volumetric soil moisture content, and percentage compared to soil moisture tension)
- fruit quality and quantity requirements
- monitoring requirements and procedures
- sampling techniques and procedures
- testing techniques and procedures
- interpretation of routine tests
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems

- resource requirements and availability
- recording requirements and procedures
- consultation requirements and procedures
- information technology systems where relevant
- calculation and presentation of statistical data where relevant
- report writing techniques and requirements where relevant
- team facilitation techniques where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • ensure use of personal protective clothing and equipment • recommend requirements for irrigation • implement irrigation activities • identify and address problems and anomalies • complete workplace records.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of

EVIDENCE GUIDE

circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Bold italicised wording**, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Policies and procedures

Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements

Workplace information

Workplace information can include:

- Standard Operating Procedures (SOPs)
- specifications
- irrigation and/or injection schedules
- routine maintenance schedules
- work notes
- Material Safety Data Sheets (MSDS)
- manufacturer instructions
- verbal directions from manager or supervisor

Monitoring activities

Monitoring activities may include:

- drainage
- soil moisture
- watertable levels
- rainfall
- water quality
- vine and soil nutrient deficiencies
- irrigation system cleaning requirements
- air temperature
- frost risk

Tests

Tests may be:

- physical appearance or analytical

RANGE STATEMENT	
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Irrigation systems	Irrigation systems may include: <ul style="list-style-type: none"> • flood • dripper • microjet • sprinkler • overhead • water winch using dam, bore or river water The irrigation system may be used to: <ul style="list-style-type: none"> • supply water, nutrients or other additives to the vines • minimise frost damage
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances
Area management	Area managed may not be limited to the area under vines. Adjacent or ecologically linked landscapes may require management or consideration, and may include: <ul style="list-style-type: none"> • woodlots • seepage areas • waterways • landcare sites • revegetation sites • windbreaks • neighbouring vineyards and other primary production
Grapes	Grapes may vary according to: <ul style="list-style-type: none"> • grape variety • crop quality • quantity

Unit Sector(s)

Application of the unit	The application of this unit is likely to require supervision of others and assessment of the impact of the irrigation and/or program on surrounding areas.
--------------------------------	---

FDFWGG3008A Operate a mechanical harvester

Modification History

This unit supersedes and is equivalent to FDFWGGMHB Operate a mechanical harvester.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify harvesting requirements and then set up and operate a mechanical harvester to meet those requirements.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the operation of specialised mechanical harvesting equipment used in wine grape growing.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for mechanical harvesting	1.1 Harvesting requirements are identified 1.2 Equipment is checked to confirm readiness for use 1.3 Equipment is set up to meet harvesting requirements
2. Operate mechanical harvester	2.1 Equipment is started up according to workplace procedures 2.2 Equipment performance is monitored to confirm performance is maintained within specification 2.3 Out-of-specification equipment performance is identified, rectified and/or reported 2.4 Vines are machine harvested according to workplace requirements 2.5 Problems and anomalies are recognised and rectified and/or reported 2.6 Equipment is maintained in good working order
3. Complete mechanical harvesting operations	3.1 Equipment is shut down according to workplace procedures 3.2 Equipment is cleaned and stored according to workplace procedures 3.3 Waste generated by both the process and cleaning procedures is collected, treated, disposed of or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- Access workplace information to identify harvesting requirements
- Select, fit and use appropriate personal protective clothing and/or equipment
- Liaise with other work areas
- Confirm equipment status and condition
- Set up mechanical harvester to meet harvesting requirements
- Start up the mechanical harvester
- Operate a mechanical harvester according to harvesting conditions and requirements. These may include consideration of:
 - crop level
 - grape variety
 - vine age
 - row height, width and trellis design
 - slope, angle of row
 - visibility
 - other vineyard activities
- Monitor mechanical harvester operation. This will include monitoring:
 - vine damage
 - grape quality and maturity
 - harvesting effectiveness (amount of fruit left in fruiting zone)
 - matter other than grape (MOG) collected
 - hours worked and service history of machinery
 - problems and anomalies
 - climatic conditions
- Take corrective action in response to out-of-specification results or non-compliance
- Recognise problems and anomalies
- Report and/or record problems and/or corrective action taken
- Shut down equipment in response to an emergency situation
- Shut down equipment in response to routine requirements
- Identify, rectify and/or report environmental non-compliance
- Clean and store equipment
- Maintain work area to meet housekeeping standards
- Carry out routine maintenance of equipment according to enterprise procedures

REQUIRED SKILLS AND KNOWLEDGE

- Interpret mechanical drawings according to enterprise procedures
- Use hand and power tools according to enterprise procedures
- Use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- Work cooperatively within a culturally diverse workforce

Required knowledge

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- Effect of different climatic conditions on timing and management of harvest
- Basic vine physiology, as it applies to:
 - water intake
 - nutrient uptake
 - photosynthesis
 - respiration and transpiration
 - translocation
- Parts of the root, trunk, shoot and fruit systems of the grapevine, their role in how the vine works and their contribution to fruit quality, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunch, berries and flowers
- Vine types, their characteristics and uses, including:
 - family, genus and species
 - *Vitis vinifera* and commercial varieties
 - native species and hybrids (e.g. *labrusca*)
 - rootstocks and scion stock
- Industry processes for new variety development
- Annual growth stages of grapevines, including:
 - budburst
 - flowering
 - veraison
 - maturity
- Key grape varieties and their distinguishing features. This may include factors, such as:
 - berry and bunch characteristics
 - frost and disease resistance
 - flavour and style
- Factors that affect grape ripening (e.g. canopy management, irrigation, grape variety and

REQUIRED SKILLS AND KNOWLEDGE

- climatic conditions)
- Effect of fruit quality on wine
- Quality assurance procedures and controls
- Common problems and anomalies
- Harvesting procedures and operating parameters
- Significance and method of monitoring equipment performance
- Role and operating difficulties of harvester support operator
- Purpose of mechanical harvester components
- Common faults and corrective action required
- Occupational health and safety (OHS) hazards and controls
- Environmental issues and controls
- Procedures and responsibility for reporting problems
- Cleaning and storage requirements associated with changeovers and types of shutdowns
- Emergency and routine shutdown sequences
- Recording and reporting procedures and requirements
- Cleaning and storage procedures
- Routine maintenance procedures for equipment where relevant
- Interpretation of mechanical drawings where relevant
- Procedures for use of hand and power tools where relevant

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • select and confirm readiness of equipment and prepare according to instructions • attach and set up equipment to meet requirements • start and operate equipment in accordance with operation instructions and requirements of workplace and task • perform emergency and routine shutdowns • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of OHS hazards, controls and emergency procedures • sort, collect, treat, recycle or dispose of waste • record information appropriately.
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> Standard Operating Procedures (SOPs) specifications production schedules instructions routine maintenance schedules work notes Material Safety Data Sheets (MSDS) manufacturer instructions verbal directions from manager or supervisor
Equipment	<p>Equipment includes:</p> <ul style="list-style-type: none"> mechanical harvesting machinery appropriate tools
Terrain	Terrain must enable safe and effective operation of a

RANGE STATEMENT	
	<p>mechanical harvester. It may include:</p> <ul style="list-style-type: none"> • tracks • access roads • straight or curving vineyard rows • open paddocks • flat, undulating, steep, hilly or terraced land • on- and off-road environments
Conditions	<p>Conditions must enable safe and effective operation of a mechanical harvester. These may include:</p> <ul style="list-style-type: none"> • dry • wet • slippery • boggy • icy • foggy • windy • day and night conditions.
Confirming equipment status	<p>Confirming equipment status involves:</p> <ul style="list-style-type: none"> • checking that all safety standards and pre-start requirements are met and that equipment is operational
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • adverse harvesting conditions • diseased, immature, over-ripe or rotten fruit • operating hazards, such as broken trellis and wires • MOG • equipment malfunction or breakdown
Grapes	<p>Grapes may vary according to:</p> <ul style="list-style-type: none"> • grape variety • crop quality • quantity • trellis systems • collection procedures

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3009A Monitor and maintain nursery plants

Modification History

This unit supersedes and is equivalent to FDFWGGMNPB Monitor and maintain nursery plants.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for wine grape nurseries. It covers the skills and knowledge required to monitor and maintain containerised nursery plants.
------------------------	---

Application of the Unit

Application of the unit	This unit includes maintaining the plant environment to ensure it supports optimum growth and health and meets stock requirements.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFWGG2007A	Tend containerised plants
	FDFWGG2012A	Identify and treat nursery plant disorders

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor environmental parameters	<p>1.1 Environmental parameters are monitored against the production plan and according to workplace procedures</p> <p>1.2 Environmental parameters are altered to meet the needs of the plants and according to workplace procedures</p>
2. Determine daily water requirements	<p>2.1 Plant water needs are determined according to workplace procedures</p> <p>2.2 Water is applied according to the needs of the plants and workplace procedures</p> <p>2.3 Water requirements are monitored according to workplace procedures</p>
3. Implement treatments to promote plant growth	<p>3.1 Potting media is tested to ensure specifications are met</p> <p>3.2 Overall health of plants is monitored according to workplace procedures</p> <p>3.3 Plant treatments are implemented according to production plans and workplace procedures</p> <p>3.4 Problems and anomalies are identified, rectified and/or reported according to workplace procedures</p>
4. Monitor the dispatch of stock	<p>4.1 Availability of stock and timing of dispatch is confirmed with customers according to workplace procedures</p> <p>4.2 Plants are prepared for dispatch in line with customer requirements</p> <p>4.3 Stock is checked to ensure it meets quality specifications</p> <p>4.4 Orders are checked against stock being dispatched to ensure compliance</p>
5. Record information	5. Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information required to monitor and maintain nursery plants
- liaise with other work areas and customers
- select, fit and use appropriate personal protective clothing and/or equipment
- identify potential and existing hazards in the work area
- identify, rectify and/or report environmental non-compliance
- monitor work areas to ensure they meet workplace housekeeping standards
- monitor work area to ensure they meet workplace hygiene standards. This may include:
 - removing weeds
 - removing dead or diseased plant materials
 - washing work area on transfer of plants
 - disinfecting tools, equipment and work areas
 - using foot baths on entry to different work areas
- identify, rectify and/or report problems and anomalies
- implement safe work procedures to minimise hazards
- maintain workplace records
- maintain irrigation systems. This may include:
 - fixing blockages
 - servicing irrigation system components
 - identifying and reporting faults in the irrigation system
 - fixing leaking heads and hoses
- monitor water requirements. This may include:
 - using soil moisture devices
 - checking plants for physical signs of water stress or waterlogging
- test potting media. This may include identifying:
 - pH
 - drainage
 - aeration
 - salinity
 - nitrate levels
 - water repellence
- monitor health of the vines
- apply treatments to vines. These may include:

- fungicides
- fertilisers
- insecticides
- hormones
- pruning
- hardening off
- irrigation
- monitor and/or prepare stock for dispatch. This may include:
 - labelling containers
 - checking orders against stock prepared
 - hydrating stock
- prepare, mix and use chemicals as required
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- basic vine physiology, as it applies to:
 - transpiration
 - water intake
 - nutrient uptake
 - photosynthesis
 - respiration
 - translocation
- parts of the root, trunk, shoot and fruit systems of the grapevine, their role in how the vine works and their contribution to fruit quality, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunch, berries and flowers
- industry processes for new variety development
- key grape varieties and their distinguishing features. This may include factors, such as:
 - berry and bunch characteristics
 - frost and disease resistance
 - flavour and style
- annual grapevine growth stages, including:

- budburst
- flowering
- veraison
- maturity
- methods of calculating daily water needs
- methods for monitoring water use
- relationship between water needs of nursery plants and environmental parameters
- characteristics of various types of potting media
- tests to determine quality of potting media
- principles of nursery hygiene
- optimum growing conditions for plants in a nursery
- quality parameters for a range of nursery plants
- symptoms of unhealthy plants
- treatments required by plants at different growth stages and environmental parameters
- packing, dispatch and handling techniques of nursery plants
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- reporting and recording requirements and procedures
- procedures and responsibility for reporting problems and anomalies

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • identify environmental factors on plant growth and health • monitor and control application of water and special treatments to meet production outcomes • identify and address anomalies and problems • maintain stock levels to meet requirements • prepare stock for dispatch • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of

EVIDENCE GUIDE	
	competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • product labels • integrated pest management (IPM) programs • verbal directions from manager, supervisor, or senior operator
Nursery environment	<p>Nursery environment may include:</p> <ul style="list-style-type: none"> • glasshouses • shade houses • field nurseries • hardening-off areas

RANGE STATEMENT	
Environmental parameters	Environmental parameters may include: <ul style="list-style-type: none"> • light • temperature • humidity • wind
Crop water needs	Crop water needs are determined by: <ul style="list-style-type: none"> • using water monitoring devices or physical observation
Problems and anomalies	Problems and anomalies may include: <ul style="list-style-type: none"> • evidence of pests and diseases • insufficient new roots • insufficient number of new shoots • weak graft union • signs of dehydration • changes in environmental parameters • poor equipment performance
Stock	Stock may include: <ul style="list-style-type: none"> • cuttings and rootlings
Records	Records will include: <ul style="list-style-type: none"> • date • environmental parameters • treatments applied • rate of treatments • name of operator • dispatch records

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3010A Implement a soil management program

Modification History

This unit supersedes but is not equivalent to FDFWGG3010B Implement a soil management program.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. This unit covers the skills and knowledge required to monitor soil requirements and implement and evaluate a soil management program.
------------------------	---

Application of the Unit

Application of the unit	The application of this unit involves consultation with the manager and may require supervision of others in the implementation process.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFWGG2018A	Operate vineyard equipment
	FDFWGG3001A	Apply chemicals and biological agents

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor vineyard soil management requirements	1.1 Vineyard soil is monitored according to workplace procedures 1.2 Results are interpreted correctly 1.3 Appropriate soil management activities are identified and recommended
2. Implement soil management program	2.1 Resources are coordinated and personnel briefed to deliver requirements 2.2 Agreed soil management program is implemented
3. Evaluate effectiveness of soil management activities	3.1 Vineyard is monitored to evaluate effectiveness of activities 3.2 Surrounding areas are monitored to evaluate environmental impact of soil management activities
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify soil management requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas
- consult with appropriate senior personnel
- apply sampling techniques
- conduct routine tests
- monitor the vineyard and interpret the results to identify vineyard soil management requirements. This may include monitoring:
 - soil moisture content
 - watertable level
 - weed population
 - signs of vine nutrient deficiencies
 - climatic conditions
 - cover crop practices
 - soil analyses (e.g. pH and salinity)
 - evidence of hard pans
 - soil texture
 - vine root distribution
 - nutrient levels in plant and soil
 - irrigation water quality
 - climatic conditions
 - erosion risk
 - soil management history
 - growth of mid-row sward
- calculate application rates for soil addition requirements (e.g. fertilisers and ameliorants)
- present and justify recommendations to senior personnel
- implement the soil management program. This will include consideration of:
 - resources, including operators with appropriate skills
 - equipment availability and capability
 - materials and chemicals
 - maintenance programs and supplies
 - specific needs of individual blocks

- environmental conditions
- other vineyard activities
- instruct operators as required
- monitor soil management activities. This will include monitoring:
 - operator performance
 - operating conditions
 - operating results
 - material supplies
 - equipment performance
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record problems and/or corrective action
- identify, rectify and/or report environmental non-compliance
- maintain workplace records
- maintain work area to meet housekeeping standards
- report and/or record problems according to instructions
- plan and organise
- supervise operators according to enterprise procedures
- apply information technology systems according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- ideal soil environment for vines plus specific requirements of grapes grown
- soil management techniques and their affect on soil, vine growth, cropping levels and wine quality
- visual signs of vine nutrient deficiencies
- sampling techniques and procedures
- routine testing techniques and procedures
- interpretation of routine tests
- Occupational health and safety (OHS) hazards and controls
- environmental issues and controls
- procedures and responsibility for reporting problems
- resource requirements and availability
- reporting and recording requirements and procedures
- consultation requirements and procedures
- supervision techniques where relevant

- information technology systems where relevant
- resources required for assessment where relevant

Evidence Guide

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • soil management programs • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal directions from manager or supervisor
Monitoring activities	<p>Monitoring activities may include:</p> <ul style="list-style-type: none"> • drainage • soil moisture, pH and texture • watertable levels • rainfall • vine and soil nutrient deficiencies • weeds • air temperatures
Area management	<p>Area managed may not be limited to the area under vines. Adjacent or ecologically linked landscapes may require management or consideration, and may include:</p> <ul style="list-style-type: none"> • woodlots • seepage areas • waterways • landcare sites • revegetation sites • windbreaks • neighbouring vineyards and other primary production

RANGE STATEMENT	
Soil management activities	<p>Soil management activities may include, but are not limited to:</p> <ul style="list-style-type: none"> • the addition of ameliorants and fertilisers • cover cropping • mulching • cultivating • slashing • tilling • ploughing • weeding • spraying • frost management
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

-
-

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	<p>Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements</p>
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • soil management programs • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal directions from manager or supervisor

RANGE STATEMENT	
Monitoring activities	<p>Monitoring activities may include:</p> <ul style="list-style-type: none"> • drainage • soil moisture, pH and texture • watertable levels • rainfall • vine and soil nutrient deficiencies • weeds • air temperatures
Area management	<p>Area managed may not be limited to the area under vines. Adjacent or ecologically linked landscapes may require management or consideration, and may include:</p> <ul style="list-style-type: none"> • woodlots • seepage areas • waterways • landcare sites • revegetation sites • windbreaks • neighbouring vineyards and other primary production
Soil management activities	<p>Soil management activities may include, but are not limited to:</p> <ul style="list-style-type: none"> • the addition of ameliorants and fertilisers • cover cropping • mulching • cultivating • slashing • tilling • ploughing • weeding • spraying • frost management
Information systems	<p>Information systems may be:</p> <ul style="list-style-type: none"> • print or screen based

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWGG3011A Perform shed nursery activities

Modification History

This unit supersedes and is equivalent to FDFWGGSNAB Perform shed nursery activities.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to treat and prepare vine cuttings and freshly dug rootlings for sale or planting in the vineyard.
------------------------	--

Application of the Unit

Application of the unit	This unit includes preparation for plantings, treating and callusing cuttings, care of rootlings and preparation for transfer and transportation.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare cuttings for callusing	1.1 Cuttings are counted, bundled and labelled according to instructions as required 1.2 Cuttings are chemically treated according to instructions 1.3 Cuttings are stored according to instructions
2. Prepare and maintain callusing environment	2.1 Sand bed or callusing room is prepared according to workplace procedures 2.2 Cuttings are placed into callusing environment according to instructions 2.3 Optimum callusing environment is maintained
3. Prepare rootlings for customer or planting	3.1 Rootlings are trimmed, graded, packed and stored according to instructions 3.2 Waste is collected and disposed of according to workplace procedures 3.3 Problems and anomalies are recognised, rectified and/or reported 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify nursery requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas and customers
- count, bundle and label cuttings as required
- treat cuttings as required prior to callusing. This may include:
 - fungicide treatment
 - re-hydration
 - scoring
 - root promoter treatment
 - cutting just below basal bud
 - assimilation after cool storage
- store cuttings. This may include maintaining and monitoring cold storage facilities
- prepare sand bed or callusing room. This may include:
 - packing sand or vermiculite
 - lining boxes
 - ensuring heaters and ventilators are working correctly to required temperature
- plant or place cuttings in callusing environment. This may include:
 - feeling into ground or sand
 - packing into boxes with vermiculite
 - watering in
 - correct number of cuttings per box
 - spacing (e.g. not too tight)
 - correct way up (e.g. basal end at bottom)
 - arranging according to variety, clone and source
 - labelling and mapping of beds
 - adding hormone mixes
- maintain optimum callusing environment. This will include consideration of:
 - temperature
 - relative humidity
 - moisture levels of growing medium
 - weed and pest prevention
- trim rootlings (top growth and roots) ready for planting

- grade rootlings according to workplace or customer requirements and standards
- pack rootlings. This should include consideration of:
 - customer requirements
 - maintenance of rootling health
 - minimisation of vine damage
 - mode of transport
 - destination time
 - storage time and method
 - prevention of dehydration
- recognise problems and anomalies with vines, equipment and materials
- take corrective action in response to out-of-specification results, activity or non-compliance
- report and/or record problems and/or corrective action
- identify, rectify and/or report environmental non-compliance
- collect, sort, grade, treat and/or dispose of waste as required
- handle cuttings or rootlings to minimise damage
- select and operate equipment as required
- select and use materials as required
- maintain work area to meet housekeeping standards
- clean equipment as required
- prepare and mix chemicals as required
- conduct routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- common features of healthy vine cuttings or rootlings. This may include:
 - thickness of original cane
 - no evidence of pests and diseases
 - number, strength and distribution of new roots
 - number, maturity and distribution of shoots
 - visually complete and robust graft union
- common features of unhealthy vine cuttings or rootlings. This may include:
 - galls on stem (e.g. crown gall)
 - galls on roots (e.g. nematodes)
 - no shoots or roots
 - damaged or destroyed buds

- excessive disease staining or spots on canes
- immature wood
- shoots on incorrect nodes
- faulty or broken graft unions
- too few or unevenly distributed root development
- pre-callusing treatment requirements
- purpose and benefit of treatments
- storage requirements of cuttings prior to callusing
- preparation requirements of callusing environment
- callusing options (e.g. features, pros and cons)
- optimum callusing environment and its effect on the vine cutting
- common problems that occur during callusing and how they should be resolved (e.g. uneven callusing or evidence of dehydrated cuttings on arrival)
- preparation requirements for rootlings and procedures for sales or transfer to vineyard
- package or storage requirements and procedures for rootlings ready for sale or transfer
- factors that influence how a cutting should be graded and why
- reasons for specific requirements, for example:
 - rootling preparation
 - packing preparation
 - packaging and storage requirements
- waste disposal requirements and procedures
- reporting and recording requirements and procedures
- safe handling of chemicals
- equipment operation requirements and procedures
- Occupational health and safety (OHS) hazards and controls
- procedures and responsibilities for reporting problems
- environmental issues and controls
- cleaning requirements and procedures for work area and equipment. This should include additional considerations when cleaning between batches and varieties
- safe preparation and mixing of chemicals
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • conduct cutting and callusing activities • monitor the health of and tend rootlings • prepare for, implement and monitor nursery activities • prepare vine rootlings for transport • maintain nursery environment to optimise plant health • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Rootlings	<p>Rootlings may include:</p> <ul style="list-style-type: none"> • those developed from cuttings in a sand bed or callusing room • those freshly dug from a field nursery
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • secateurs • personal protective clothing and/or equipment

RANGE STATEMENT	
	<ul style="list-style-type: none"> • bins • boxes • spades • trowels • watering or irrigating equipment • heating equipment • packing machine • counting machine
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • string • labels • chemicals • sand • wax
Problems and anomalies	<p>Problems and anomalies may include:</p> <ul style="list-style-type: none"> • evidence of nematodes, crown gall, dehydration, infection, physical damage and graft union failure
Facilities	<p>Facilities may include:</p> <ul style="list-style-type: none"> • cold storage • callusing room • hot beds • sand storage bins • water • fungicide treatment areas • storage bins or tanks • soakage tanks • glasshouses
Work hazards	<p>Work may involve exposure to:</p> <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3012A Monitor and control vine disorders and damage

Modification History

This unit supersedes and is equivalent to FDFWGGVDDDB Monitor and control vine disorders and damage.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. This unit covers the skills and knowledge required to identify and monitor a variety of vine disorders and causes of damage, and recommend and implement preventive or corrective action.
------------------------	---

Application of the Unit

Application of the unit	The application of this unit involves consultation with the manager and may require supervision of others in the implementation process.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor vine health	1.1 Vineyard is monitored according to workplace procedures 1.2 Evidence of vine disorders and pest or disease presence is recognised 1.3 Cause of symptoms is identified 1.4 Appropriate activities are identified and recommended
2. Implement control measures	2.1 Resources are coordinated and personnel briefed to deliver requirements as required 2.2 Agreed control measures are implemented according to instructions
3. Evaluate effectiveness of control activities	3.1 Vineyard is monitored to evaluate the effectiveness of treatment
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify vine damage monitoring and control requirements
- implement integrated pest management (IPM) program
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas
- apply sampling techniques
- conduct routine tests
- monitor vine health to meet workplace requirements
- recognise symptoms of vine disorders and identify their cause
- recognise and monitor beneficial organisms
- recommend preventive, corrective and/or eradication measures
- evaluate effectiveness of a range of control measures
- implement appropriate preventive, control and/or eradication measures
- rectify and/or report environmental non-compliance
- maintain workplace records
- implement occupational health and safety (OHS) procedures
- instruct and/or supervise vineyard personnel and/or contractors according to enterprise procedures
- operate information technology systems according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- symptoms of vineyard pests, diseases, disorders and weeds, and their treatment
- effect of pests, diseases, disorders and weeds on vine, fruit and/or wine quality
- effect of prevention, control and eradication techniques on vine, fruit and/or wine quality (e.g. withholding periods for chemical sprays and inter-row cultivation)
- basic vine physiology, as it applies to:
 - water intake

- nutrient uptake
- photosynthesis
- respiration, transpiration
- translocation
- parts of the root, trunk, shoot and fruit systems of the grapevine, their role in how the vine works and their contribution to fruit quality, including:
 - buds, nodes and tendrils
 - cambium, epidermis, phloem and xylem
 - leaf blade, bract and petiole
 - bunch, berries and flowers
- annual growth stages of grapevines, including:
 - budburst
 - flowering
 - veraison
 - maturity
- vine types, their characteristics and uses, including:
 - family, genus and species
 - *Vitis vinifera* and commercial varieties
 - native species and hybrids (e.g. *labrusca*)
 - rootstocks and scion stock
- key grape varieties and their distinguishing features. This may include factors, such as:
 - berry and bunch characteristics
 - frost and disease resistance
 - flavour and style
- industry processes for new variety development
- Climatic implications and influence on the occurrence, development and treatment of vine disorders and damage
- resistance management strategies
- features and benefits of a variety of preventive, control and eradication techniques, including costs and interaction with environmental conditions
- environmental issues associated with preventive, control and eradication techniques. This should include awareness of community issues and concerns (e.g. spray drift)
- IPM principles, features and benefits
- sampling techniques and procedures
- routine testing techniques and procedures
- monitoring techniques and procedures
- OHS hazards and control requirements
- legislative and licensing requirements relevant to the task
- prevention, control and eradication implementation procedures
- evaluation techniques
- procedures and responsibility for reporting problems

- reporting and recording requirements and procedures
- supervision techniques where relevant
- information technology systems where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective equipment, MSDS and follow other specified OHS procedures • recognise symptoms of vine disorders and damage and recommend treatment • implement treatments according to requirements • evaluate effectiveness of treatments • complete documentation.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • product labels • IPM programs • verbal directions from manager or supervisor
Vine disorders	<p>Vine disorders may include:</p> <ul style="list-style-type: none"> • any form of damage or deficiency caused by physical, environmental, biological or chemical agents (e.g. vertebrate and invertebrate pests, diseases, weeds, fungi and nutrient deficiency)
Control or eradication measures	<p>Control or eradication measures may include:</p> <ul style="list-style-type: none"> • the application of growth regulants, nutrients, hormones, pesticides, fungicides and herbicides • other chemicals, baits, traps, ripping, fumigation,

RANGE STATEMENT	
	guns, guards, fencing, gas guns and other scaring devices
Equipment	Equipment will vary according to the techniques adopted
Information systems	Information systems may be: <ul style="list-style-type: none"> print or screen based and may include information technology systems, such as a database of vine disorder and damage histories, symptom recognition and treatment information, climatic, weather forecasting and rainfall mapping systems, work scheduling, reporting and recording systems
Work hazards	Work may involve exposure of self and/or other personnel to: <ul style="list-style-type: none"> chemical, dangerous or hazardous substances

-
-

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWGG3013A Operate spreading and seeding equipment

Modification History

This unit supersedes and is equivalent to FDFWGG3013B Operate spreading and seeding equipment.

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the wine grape growing stream of the wine sector. It covers the skills and knowledge required to operate spreading and seeding equipment.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the operation of spreading and seeding equipment used in wine grape growing. It includes the ability to attach, set up and detach equipment as required. The equipment only includes that which requires calibration. Spreading and seeding activities may include planting cover crops, deep incorporation of ameliorants and fertilising.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	AHCMOM202 A	Operate tractors

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare equipment for operation	1.1 Requirements are interpreted and confirmed 1.2 Materials are confirmed as available to meet requirements 1.3 Materials are prepared to meet requirements 1.4 Equipment is checked to confirm readiness for use 1.5 Equipment is attached and set up to meet application requirements
2. Operate equipment	2.1 Equipment is started up according to workplace procedures 2.2 Equipment is operated according to workplace procedures 2.3 Equipment performance is monitored to confirm performance is maintained within specification 2.4 Out-of-specification equipment performance is identified, rectified and/or reported 2.5 Materials are applied according to instructions 2.6 Problems and anomalies are recognised, rectified and/or reported
3. Shut down equipment	3.1 Equipment is shut down according to workplace procedures 3.2 Equipment is cleaned and stored according to workplace procedures 3.3 Waste generated by the process is collected, treated, disposed of or recycled according to workplace procedure 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access and interpret workplace information to identify seeding and spreading requirements
- select, fit and use appropriate personal protective clothing and/or equipment
- liaise with other work areas
- select appropriate equipment for the task
- confirm equipment status and condition. This may include checking:
 - belts and chains
 - lubricants
 - hydraulics
 - air intake
 - tyre pressure and wear
 - wear and tear
- attach, set up and calibrate equipment to meet application requirements
- select, prepare and load materials according to requirements
- start up equipment
- operate equipment to meet operating instructions. This should include:
 - driving forward and reversing
 - operating in confined spaces
 - operating amongst other vineyard activities and a variety of conditions as required
- monitor equipment performance and application rates. This may include monitoring:
 - status and condition
 - handling and stopping
 - ground speed
 - actual versus expected usage of materials
 - ground coverage
 - blockages
 - environmental operating conditions
- apply materials according to instructions. This may include:
 - correct variety or type of seed and/or fertiliser
 - correct soil ameliorant and/or treatment
 - application rate
 - volume
 - application depth

- density
- coverage
- recognise equipment performance problems and amend and/or report as instructed
- handle hazardous materials according to occupational health and safety (OHS) requirements
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- collect, sort, treat, dispose of and/or recycle waste
- identify, rectify and/or report environmental non-compliance
- clean equipment
- prepare equipment for storage
- store equipment according to workplace standards
- maintain work area to meet housekeeping standards
- maintain workplace records
- conduct routine maintenance of equipment according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- the purpose and application of spreading and seeding operations within the vineyard growing system. This may include the purpose and application of:
 - soil ameliorants (e.g. pH, texture, and mulching treatments, e.g. structure)
 - inter-row cropping species and varieties
 - inter-row cropping practices and techniques
 - inorganic and organic fertilising materials
- process specifications, procedures and operating parameters
- purpose and operation of equipment and instrumentation components
- common causes of variation and corrective action required
- required weather conditions for activity
- soil characteristics as they apply to spreading and seeding operations. These may include:
 - structure
 - compaction
 - condition
 - texture
 - fertility and toxicity
 - moisture (e.g. too dry or waterlogged)
- significance and methods of monitoring equipment performance

- OHS hazards and controls
- material handling requirements
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- reporting and recording requirements and procedures
- environmental issues and controls
- cleaning requirements and procedures associated with changeovers and types of shutdowns
- storage requirements associated with temporary or seasonal breaks in activity
- storage procedures for equipment and materials
- shutdown sequence
- routine maintenance procedures for equipment where relevant.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • use personal protective clothing and equipment • confirm availability of specified materials and prepare according to instructions • select and confirm status and suitability of equipment • attach, set up and calibrate equipment to meet application requirements • start and operate equipment in accordance with operation instructions and requirements of workplace and task • monitor spreading or seeding operation to achieve specified result • perform emergency and routine shutdowns • take corrective action in response to out-of-specification results or non-compliance • demonstrate knowledge of ohs hazards, controls and emergency procedures • sort, collect, treat, recycle or dispose of waste • record information appropriately.
Context of and specific resources for assessment	<p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Standard Operating Procedures (SOPs) • specifications • production schedules • instructions • routine maintenance schedules • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator

RANGE STATEMENT	
Spreading and seeding activities	Spreading and seeding activities may include: <ul style="list-style-type: none"> • planting cover crops • deep incorporation of ameliorants and fertilising
Equipment	Equipment may include: <ul style="list-style-type: none"> • seeders • spreaders (e.g. fertiliser and mulch)
Terrain	Terrain must enable safe and effective operation of equipment. It may include: <ul style="list-style-type: none"> • tracks • access roads • vineyard rows • open paddocks • flat, undulating, steep, hilly or terraced land • on- and off road environments
Conditions	Conditions must enable safe and effective operation of equipment. These may include: <ul style="list-style-type: none"> • dry • wet • slippery • boggy • icy • foggy • windy • day and night conditions
Loads	Loads, where applicable, may range from: <ul style="list-style-type: none"> • full to empty as required
Confirming equipment status	Confirming equipment status involves: <ul style="list-style-type: none"> • checking that all safety standards and pre-start requirements are met and equipment is operational • checking the operation and calibration of measuring instrumentation
Information systems	Information systems may be: <ul style="list-style-type: none"> • print or screen based
Materials	Materials may include: <ul style="list-style-type: none"> • organic and inorganic fertilisers

RANGE STATEMENT	
	<ul style="list-style-type: none"> • gypsum • lime • seed • ameliorants (e.g. grape marc) • mulch (e.g. straw)
Waste	Waste may include: <ul style="list-style-type: none"> • empty containers • bags • packaging materials • unused materials
Problems and anomalies	Problems and anomalies may include: <ul style="list-style-type: none"> • equipment blockages • uneven surfaces • size and flow of materials being applied
Work hazards	Work may involve exposure to: <ul style="list-style-type: none"> • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

Custom Content Section

Not applicable.

FDFWIN1001A Identify key operations in wine production

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the identification of the key characteristics of Australian wine production and major industry issues.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit supports introductory training in the wine industry, for example, vocational training in high schools and induction or applications where overview knowledge of the Australian wine industry is needed (e.g. wine region tourism personnel and wine enterprise support staff).</p> <p>The unit is intended to be delivered in conjunction with basic wine grape growing, cellar door sales and cellar operations units and assumes that exposure to wine grape growing and winemaking operations is done under close supervision.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify major stages in winemaking	<p>1.1 Key activities in preparation of grapes for wine production are identified</p> <p>1.2 Purpose and process of crushing, pressing, fermentation, maturation, fining, filtering, bottling and packaging are explained</p> <p>1.3 Sequence of operations and key equipment used are correctly identified</p> <p>1.4 Basic differences between red, white, fortified and sparkling wine processing are identified</p> <p>1.5 Industry terminology is used to describe wine processing activity and wine features</p>
2. Identify wine sales and marketing strategies and processes	<p>2.1 Standard forms of wine packaging and labelling are identified</p> <p>2.2 Range and purpose of labelling information are identified</p> <p>2.3 Scope and purpose of different types of cellar door operations are identified</p> <p>2.4 Major wine regions and wine types and styles in Australia are identified</p> <p>2.5 Key features and market expectations of wine from different regions in Australia are described</p> <p>2.6 Difference between domestic and export markets and marketing strategies and requirements are identified</p> <p>2.7 Standard expert and consumer wine evaluation techniques and features are identified, including shows, reviews and tasting notes</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- understand the correct sequence of wine production stages
- identify types and purpose of fermentation processes
- identify equipment used in wine processing and storage
- identify typical bottling, labelling and packaging of wine
- understand common marketing arrangements and advantages and disadvantages of each, including cellar door sales, mail order, internet marketing, and distribution through agents and wholesalers

Required knowledge

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- main stages of wine production and equipment used
- common bottling, labelling and packaging used for wine
- nature of Australian wine market, including domestic retail, and direct selling and export markets
- wine industry terminology.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • describe major Australian wine regions, common wine styles and grape varieties and their characteristics • identify main features of domestic and export markets • identify main production operation and sequence of operations for different wine types • identify wine products and common marketing techniques used • use wine industry terminology to communicate features and information about wine production.
Context of and specific resources for assessment	<p>Assessment may occur in a real or a simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on relevant company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where

EVIDENCE GUIDE	
	possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Wine related products	<p>Wine related products may include:</p> <ul style="list-style-type: none"> • grapes or grape products, wine (all types and styles) • fortifying spirits • promotional merchandise, • wine industry supplies (e.g. bottles, stoppers and casks) and services (e.g. personnel, expertise and analysis)
Wine types and styles	<p>Wine types and styles include:</p> <ul style="list-style-type: none"> • red, white, fortified and sparkling wine and typical variations in quality and flavour caused by ageing and processing techniques
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • tanks • transfer equipment • filtration equipment • crushing and pressing equipment • fermentation vessels • stills and retorts • separators • barrels • process control equipment • IT equipment • bottling and packaging equipment

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWIN1002A Identify viticulture processes

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the identification of the key processes involved in growing, harvesting and preparing wine grapes for wine production.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit supports introductory training in the wine industry, for example, vocational training in high schools and induction or applications where overview knowledge of viticulture is needed.</p> <p>The unit assumes that exposure to wine grape growing operations is done under close supervision.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify major processes and stages of wine grape growing	1.1 Major processes in wine grape growing are identified, including grafting, planting, irrigation, fertilising, canopy management, pruning, pest and disease control, and harvesting 1.2 Sequence and timing of operations are identified 1.3 Tasks and job roles associated with processes are described 1.4 Vintage operations, including picking and transporting, are identified 1.5 Basic industry terminology is recognised and used to describe wine grape growing activity
2. Identify features of grapes	2.1 Physiology of wine grapes are identified 2.2 Key characteristics and growth phases of the grape vine are explained 2.3 Impact of soil and climate on grape growing are described 2.4 Key risks to successful grape growing are identified 2.5 Parameters for harvesting are identified
3. Identify grape types	3.1 Major wine regions and wine types and styles in Australia are identified 3.2 Differences between major grape vine varieties are identified

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- identify wine grape vine features, including major vine types and stages of growth
- identify impact of frost, drought, pests and disease (including phylloxera) on grape growing
- identify differences between healthy and diseased, or not thriving vine
- identify grapes that are ready for harvest
- use common equipment used in wine grape vine planting, nurseries, field maintenance and harvesting
- identify major wine types and styles, grape varieties used and wine regions associated with each grape variety and wine style.

Required knowledge

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- main stages of grape vine growth
- principles of grape vine propagation
- wine grape growing techniques
- common pests and diseases of grape vines and options for control
- wine industry terminology.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • describe wine grape growing processes and key stages, including grafting, planting, irrigation, fertilising, canopy management, pruning and harvesting • identify common pests, diseases and climate related threats to successful grape growing • explain common wine styles and grape varieties and their characteristics.
Context of and specific resources for assessment	<p>Assessment may occur in a real or a simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on relevant company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Grape vine types	Major grape vine types, their characteristics and uses include: <ul style="list-style-type: none"> • <i>Vitis vinifera</i> and non-vinifera varieties • native species and hybrids • difference between rootstocks and scion stock • common and alternative varieties
Annual growth stages of grape vines	Annual growth stages of grape vines include: <ul style="list-style-type: none"> • budburst • flowering • veraison • maturity
Pests and diseases	Pests and diseases may include: <ul style="list-style-type: none"> • vertebrate and invertebrate pests, • phylloxera • weeds • fungi • nutrient deficiency
Wine types and styles	Wine types and styles include: <ul style="list-style-type: none"> • red, white, fortified and sparkling wine and typical variations in quality and flavour caused by using different grape varieties and harvesting at different stages of maturity
Equipment	Equipment may include: <ul style="list-style-type: none"> • tractors • spreaders • irrigation pumps and lines • mechanical harvesters and pruners • IT equipment

Unit Sector(s)

Unit sector	Wine operations
-------------	-----------------

FDFWIN2001A Perform effectively in a wine industry workplace

Modification History

This unit supersedes but is not equivalent to FDFWIUINDB Perform effectively in the workplace (induction).

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers general wine industry knowledge and skills that an employee requires to work effectively in a wine industry enterprise.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit has been developed for all vocational level occupations in the wine sector and provides the skills needed by employees to place their own tasks and skills in the context of the wine enterprise's operations and supply chain.</p> <p>The unit is typically delivered as part of induction training but may also be delivered in other circumstances, such as transfers, contractor training and vocational training in schools.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify enterprise objectives and products	1.1 Enterprise objectives are identified 1.2 Wine products produced and services provided by the enterprise are identified 1.3 Enterprise role in the wine industry supply chain are identified
2. Identify wine production streams and functions	2.1 Key production sites are identified and their role explained 2.2 Key functions are located and their contribution to product range and quality explained 2.3 Key stages in wine production are identified
3. Identify workplace role and responsibilities	3.1 Key responsibilities of own section or function are identified 3.2 Impact of own role on wine production or supply is identified 3.3 Typical calendar of events is outlined
4. Maintain work area to meet housekeeping standards	4.1 Work area is cleaned and maintained in a safe, uncluttered and organised manner according to workplace policy 4.2 Personal hygiene standards are maintained according to workplace policy and procedures 4.3 Equipment and materials are stored according to workplace procedures
5. Locate workplace information	5.1 Personal employment terms and conditions are located 5.2 Other workplace information is located, identified and applied

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace

Ability to:

- identify enterprise objectives and product range. This should include:
 - recognising enterprise labels and logos
 - identifying parent or associated enterprises
 - listing services offered
 - explaining personal contribution to achieving enterprise objectives
- identify key production sites. This may include:
 - listing key sites by name
 - locating sites on a map or stating geographical location
 - outlining their role and input to enterprise activities
 - naming key personnel and contact points
 - identifying sources of addresses, telephone numbers
- locate and explain key functions of the worksite. This should include:
 - locating and accessing key people
 - giving directions
 - following directions
 - drawing a flow diagram to identify how functions relate to each other
 - describing how each function or process contributes to enterprise objectives and product quality
- identify the role and responsibilities of own workplace. This should include:
 - locating key equipment and outlining their functions
 - locating specific work areas and outlining their functions (e.g. toilets, first aid rooms, stores, workshops and quality assurance laboratory)
 - drawing a flow diagram to depict inputs, outputs and associated processes of the work area
 - identifying key people and outlining their roles and areas of responsibility
 - outlining typical calendar of events in the workplace
- clean and maintain work area. This should include:
 - cleaning up spills and breakages without undue delay
 - using appropriate cleaning techniques
 - returning materials and equipment to designated storage areas
 - disposing of waste and rubbish according to workplace procedures
- apply personal hygiene policies and procedures with regards to:

- cleanliness
- hair tying and nets
- work clothes, uniforms (cleanliness and repairs)
- sickness
- cuts and open wounds
- eating and drinking in the workplace
- locate workplace information. This should include:
 - accessing workplace information to identify work requirements
 - completing workplace recording and documentation requirements
- apply quarantine procedures when applicable (e.g. phylloxera).

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- enterprise objectives
- workplace product and services range
- key production sites
- key functions and processes within the enterprise
- how each function or process contributes to product and services quality
- own workplace and site layout, roles and responsibilities
- location of work areas and key equipment
- identity, features and purpose of key equipment and work areas
- key people's roles and responsibilities
- reporting procedures and processes
- typical calendar of events
- housekeeping standards and procedures
- personal hygiene standards and procedures
- workplace information sources, updating and access requirements and procedures
- recording requirements and procedures
- workplace policy and procedures with regard to:
 - occupational health and safety (OHS)
 - equal opportunities and sexual harassment
 - quality assurance
 - discipline and grievance
 - customer service
- personal employment terms and conditions
- the threat of phylloxera to the Australian wine industry, including:
 - quarantine areas
 - affect of phylloxera on vine and wine

- steps winery and vineyard visitors can take to minimise risk of transferring infection, including:
- thoroughly removing soil from shoes and vehicles
- planning visits to phylloxera-free areas before infected vineyards
- avoiding the vineyard where possible
- wearing disposable shoes
- keeping to sealed roads and paths

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: <ul style="list-style-type: none"> • identify key processes in wine production and supply • identify own role within the industry • describe the enterprise key features, functions and goals • identify own responsibilities and activities • meet housekeeping standards • identify information resources for work role.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over

EVIDENCE GUIDE	
	a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Enterprise objectives	<p>Enterprise objectives may include:</p> <ul style="list-style-type: none"> • mission statements • goals • business and brand objectives
Products	<p>Products may include:</p> <ul style="list-style-type: none"> • grapes or grape products • wine (all styles) • spirits • promotional merchandise • wine industry supplies (e.g. bottles, stoppers and casks) and services (e.g. personnel, expertise and analysis)
Production sites	<p>Production sites may include:</p> <ul style="list-style-type: none"> • head office functions • production or processing plants • vineyards • supplier facilities • consultancy services
Key functions	<p>Key functions may include:</p> <ul style="list-style-type: none"> • viticulture • cellar • bottling • packaging

RANGE STATEMENT	
	<ul style="list-style-type: none"> • warehouse and distribution • cellar door sales • marketing • human resources (personnel, training and employee relations)
Calendar of events	<p>Calendar of events may relate to:</p> <ul style="list-style-type: none"> • seasonal activity • promotional activity • key wine industry and enterprise events
Work areas	<p>Work areas may include, but are not limited to:</p> <ul style="list-style-type: none"> • service roads • vineyards • paddocks • yards • floors • walkways • storerooms • benches • rest rooms • training rooms • meeting rooms • offices
Personal employment terms and conditions	<p>Personal employment terms and conditions includes:</p> <ul style="list-style-type: none"> • pay rate as per Award or enterprise agreements (standard and overtime) • pay review schedule • working hours • training development plan • progression opportunities
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • noticeboards • public address or paging systems • Standard Operating Procedures (SOPs) manuals • work notes • signs and notices (permanent and temporary) • telephone or contact details • emergency exits, routes and collection points • websites and email systems

RANGE STATEMENT	
	<ul style="list-style-type: none"> workplace policies and procedures
Policies and procedures	<p>Workplace policies, procedures and systems may include those relating to:</p> <ul style="list-style-type: none"> safety quality assurance equal opportunities sexual harassment customer services awards pay

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

FDFWIN2002A Identify and control risks in own work

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skill and knowledge required to identify and assess risks in own work activity and work area, and implement procedures to control risks.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to all personnel conducting operational activity within a production environment where a risk management approach to operations is encouraged or required. Risks may be environmental or related to equipment, product, safety or economic factors.</p> <p>It is recommended that training related to this unit be delivered in a holistic manner with units relating to occupational health and safety (OHS), quality, food safety and environmental skills as well as with relevant technical units.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Access information sources	1.1 Work related information is identified and accessed 1.2 External information resources relevant to work are identified 1.3 Key personnel to be contacted for support in a variety of circumstances are identified
2. Identify risks in workplace	2.1 Workplace risks are identified and actual and potential consequences described 2.2 Conditions and contributing factors for risk realisation are identified 2.3 Impact of own work on risk factors is identified
3. Assess risks	3.1 Work tools for assessing risk are identified 3.2 Likelihood of risk realisation and potential consequences are determined
4. Identify and implement controls	4.1 Workplace practices and procedures for controlling risks are identified 4.2 Hierarchy of controls is identified 4.3 Emergency procedures for the workplace are described 4.4 Practices for monitoring risk in own work are identified and implemented
5. Maintain work processes	5.1 Documentation is maintained according to work requirements 5.2 Communication is maintained with work colleagues to minimise risk

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information
- select, fit and use personal protective clothing and/or equipment
- identify and promptly respond to hazardous situations and emergencies
- liaise with other work colleagues
- identify and implement work procedures

- operate equipment as required
- monitor activities and equipment to identify out-of-specification results or non-compliance
- take corrective action
- report and/or record corrective action as required
- record workplace information
- maintain work area to meet housekeeping standards
- identify, rectify and/or report environmental non-compliance.

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- Work procedures and documentation and reporting processes
- Common causes of variation and corrective action required
- OHS hazards and controls
- Environmental issues and controls
- Recording requirements and procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: <ul style="list-style-type: none"> • use personal protective equipment • identify risks in own work and work area and describe impact of own work on risks • identify and implement control measures.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: <ul style="list-style-type: none"> • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures
Method of assessment	It is recommended that this unit be co-assessed with units relating to OHS, quality, food safety and environmental work practices, especially where these units are designated core units in a qualification being undertaken by the learner. As well this unit should be assessed together with other units of competency relevant to the function or work role.

EVIDENCE GUIDE	
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	<p>Workplace information can include:</p> <ul style="list-style-type: none"> • Spirit Standards (strength determination, volume conversion and litres of alcohol conversion) • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Key personnel	<p>Key personnel may include:</p> <ul style="list-style-type: none"> • supervisors and managers • work colleagues • safety representatives • external OHS services and expertise • OHS committee
Risks	Risks may be:

RANGE STATEMENT

- environmental (e.g. spills, fire, toxin release, drainage issues, contamination and wastage)
- product related (e.g. incorrect or poor quality ingredients or output, processing and treatment issues)
- equipment related (e.g. poor performance, safety issues and inadequate equipment)
- economic (e.g. wastage and incorrect supply)
- safety related (e.g. damaged safety equipment, dangerous behaviour, load shifting risks and use of hazardous materials)

Unit Sector(s)

Unit sector	Wine operations
--------------------	-----------------

AHCARB205A Operate and maintain chainsaws

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of maintaining, preparing and operating hand-held chainsaws in a work environment and defines the standard required to: select, use, maintain and store suitable personal protective equipment; carry out routine checks and maintenance on chainsaw; apply appropriate chainsaw technique and cutting methods according to manufacturer's specifications and documented low risk work procedures; assess and minimise environmental impacts of chainsaw use; maintain records of chainsaw training and certification, risk assessment and use.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to cross-cutting fallen timber using safe cutting techniques.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Recognise and apply workplace safety procedures	1.1. Occupational Health and Safety (OHS) procedures relevant to the maintenance and operation of chainsaws are recognised and applied. 1.2. OHS hazards are identified, risks assessed and risk controls are implemented. 1.3. Personal Protective Equipment (PPE) is selected and used. 1.4. Relevant licensing and legislative requirements with regard to the operation of chainsaws are recognised, accessed and applied.
2. Check and maintain chainsaw	2.1. Tools and materials required for maintenance procedures are selected, checked and confirmed against maintenance plan. 2.2. Routine checks and maintenance procedures are conducted prior to operation and according to manufacturer's specifications and maintenance plan. 2.3. Chainsaw faults or malfunctions are identified, tagged and reported for repair according to manufacturer's specifications and enterprise requirements. 2.4. Completed chainsaw maintenance procedures are detailed and recorded.
3. Operate chainsaw	3.1. Sawing materials are identified and positioned for operation according to documented low risk work procedures. 3.2. Cutting methods are determined appropriate to type of material and risk controls implemented. 3.3. Chainsaw is operated according to manufacturer's specifications and operator's manual. 3.4. Effective worksite communication is maintained to ensure efficient workflow and address immediate problems. 3.5. Environmental implications associated with chainsaw operation are identified, assessed and controlled according to documented requirements.
4. Complete and check chainsaw operation	4.1. Chainsaw damage, malfunctions or irregular performance are recorded and reported according to enterprise requirements. 4.2. Chainsaw is cleaned, maintained and stored according to manufacturer's specifications and enterprise requirements. 4.3. Relevant reports are maintained to industry

ELEMENT	PERFORMANCE CRITERIA
	standards according to enterprise requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- identify hazards and implement safe operating procedures
- safely cross-cut fallen timber using compression and tension cuts with a hand held chainsaw
- maximise volume and quality of recovery
- demonstrate safe and environmentally responsible workplace practices
- obtain relevant licenses and permits
- read and interpret manufacturer's specifications, work and maintenance plans, and Material Safety Data Sheets (MSDSs).
- effectively communicate information, interpret and apply task instructions, and maintain records and reports
- estimate and measure dimensions, and calculate volumes
- recognise caution or hazard signs and symbols
- interpret tasks or information from labels, manuals or written instructions
- record information accurately or verbally report information
- use literacy skills to follow sequenced written instructions and record information accurately and legibly
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge

- relevant State/Territory legislation and regulations with regard to the operation of chainsaws
- OHS legislative requirements and Codes of Practice
- hazards and risks when using chainsaws
- operating principles and operating methods
- various types of chainsaws and respective functions

REQUIRED SKILLS AND KNOWLEDGE

- | |
|--|
| <ul style="list-style-type: none">• effects of timber defects on recovery• environment Codes of Practice with regard to chainsaw operation. |
|--|

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • select, use, maintain and store suitable personal protective equipment • carry out routine checks and maintenance on chainsaw • apply appropriate chainsaw technique and cutting methods according to manufacturer's specifications and documented low risk work procedures • assess and minimise environmental impacts of chainsaw use • maintain records of chainsaw training and certification, risk assessment and use.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Chainsaws may include:	<ul style="list-style-type: none"> • all types and models of hand-held chainsaws in a work environment.

Unit Sector(s)

Unit sector	Arboriculture
--------------------	---------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCBAC101A Support agricultural crop work

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers supporting agricultural crop work and defines the standard required to: prepare tools and equipment; undertake crop support activities; handle basic materials and equipment, and clean up after work activities.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the provision of support to others undertaking agricultural cropping activities.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare materials, tools and equipment for agricultural crop work	<p>1.1. The required materials, tools and equipment are identified according to lists provided and/or supervisor's instructions.</p> <p>1.2. Checks are conducted on all materials, tools and equipment with insufficient or faulty items reported to the supervisor.</p> <p>1.3. Techniques used when loading and unloading materials demonstrate correct manual handling and minimise damage to the load and the vehicle.</p> <p>1.4. Suitable Personal Protective Equipment (PPE) is selected and checked prior to use.</p> <p>1.5. Cropping support is provided according to Occupational Health and Safety (OHS) requirements and according to workplace information.</p> <p>1.6. OHS hazards are identified and reported to the supervisor.</p>
2. Undertake agricultural crop work as directed	<p>2.1. Instructions and directions provided by supervisor are followed and clarification sought when necessary.</p> <p>2.2. Cropping work is undertaken in a safe and environmentally appropriate manner according to enterprise guidelines.</p> <p>2.3. Interactions with other staff and customers are carried out in a positive and professional manner.</p> <p>2.4. Enterprise policy and procedures in relation to workplace practices, handling and disposal of materials is observed.</p> <p>2.5. Problems or difficulties in completing work to required standards or timelines are reported to supervisor.</p>
3. Handle materials and equipment	<p>3.1. Waste material produced during cropping work is stored in a designated area according to supervisor's instructions.</p> <p>3.2. Materials, equipment and machinery are handled and transported according to supervisor's instructions and enterprise guidelines.</p> <p>3.3. A clean and safe work site is maintained while completing cropping activities.</p>
4. Clean up on completion of cropping work	<p>4.1. Materials are returned to store or disposed of according to supervisor's instructions.</p> <p>4.2. Tools and equipment are cleaned, maintained and stored according to manufacturer's specifications and</p>

ELEMENT	PERFORMANCE CRITERIA
	supervisor's instructions. 4.3. Work outcomes are reported to the supervisor.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- follow safety procedures
- prepare materials, tools and equipment for cropping work
- undertake work as directed
- handle materials and equipment
- clean up on completion of work
- use literacy skills to read and follow a range of basic instructions
- use oral communication skills/language competence to communicate effectively with others
- use numeracy skills to complete basic calculations
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds.

Required knowledge

- safe work practices
- farm tools and equipment
- overview of agricultural cropping activities such as land preparation, seeding, fertilising, harvesting, baling, raking and loading.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • prepare tools and equipment • undertake crop support activities • handle basic materials and equipment • clean up after work activities.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Work tasks may include:	<ul style="list-style-type: none"> • assistance with all activities associated with cropping such as: <ul style="list-style-type: none"> • land preparation • seeding • fertilising • harvesting • baling • raking • loading • removing weeds (rouging) or rocks from crops or fields • routine maintenance of sheds and other

RANGE STATEMENT	
	workplaces.
Tools and equipment may include:	<ul style="list-style-type: none"> • knives • hand tools • rope • sack trucks • fencing tools • augers • brooms.
Hazards may include:	<ul style="list-style-type: none"> • solar radiation • dust • noise • air- and soil-borne micro organisms • chemicals and hazardous substances • sharp hand tools and equipment • manual handling • holes • slippery and uneven surfaces.

Unit Sector(s)

Unit sector	Broad acre cropping
--------------------	---------------------

Co-requisite units

Co-requisite units	

Competency field

Competency field	
------------------	--

AHCBC204A Prepare grain storages

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of safely preparing storages, surrounding areas and equipment in readiness for receiving grain at an acceptable level of hygiene, and defines the standard required to: prepare the storage area for access by grain carriers; comply with Occupational Health and Safety (OHS) requirements for working in confined spaces; prepare grain storages by removing all residues and checking structures; erect simple temporary bulk material storages; prepare and test grain handling machinery and perform routine safety, servicing and maintenance procedures on tools, equipment and machinery.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to workers in specialist grain storages or on grain farms who would normally operate under routine supervision with intermittent checking. Responsibility for some roles and co-ordination within a team may be required. Preparing bulk material storages is usually within established routines, methods and procedures.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to work in bulk material storage area	1.1. Work to be undertaken is interpreted from work program where necessary, and confirmed with supervisor. 1.2. OHS hazards are identified, risk assessed and suitable controls implemented. 1.3. Suitable personal protective equipment is selected, used and maintained. 1.4. Tools and equipment suitable for the work to be undertaken are selected, checked and maintained, if necessary. 1.5. Environmental implications of undertaking work in the bulk material storage area are identified, likely outcomes assessed and, if necessary, responsible action taken.
2. Prepare storage area	2.1. Storage site is cleaned of weeds, dust and spillage to organisation requirements. 2.2. Refuse is disposed of according to regulatory requirements. 2.3. Site is maintained in a clean and tidy condition according to organisation requirements. 2.4. Storage site is prepared to meet OHS standards.
3. Prepare storages	3.1. Bulk material storages are prepared according to OHS standards. 3.2. Bulk material storages are cleaned of all residues according to organisation requirements. 3.3. Bulk material storages are checked for structural safety, damage or deterioration, and repaired or reported as required according to organisation requirements. 3.4. Temporary storages are prepared and erected to meet the needs of the organisation according to OHS standards.
4. Prepare bulk material handling machinery	4.1. Bulk material handling machinery is cleaned free of contamination and residues according to organisation requirements. 4.2. Bulk material handling equipment is adjusted and set according to organisation requirements. 4.3. Bulk material handling equipment is prepared ready for use according to manufacturer's instructions and OHS standards.
5. Complete	5.1. Workplace information is recorded clearly and

ELEMENT	PERFORMANCE CRITERIA
maintenance operation	<p>accurately in the format and at the time required by the organisation.</p> <p>5.2. Waste is collected and disposed of or recycled to minimise damage to the external environment.</p> <p>5.3. Tools and equipment are cleaned and stored according to organisation work procedures.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- identify hazards and follow safe work procedures
- erect simple temporary bulk material storages
- check equipment and storage facilities, and identify current or impending faults
- handle and manoeuvre equipment
- complete pre-operational checks on basic tools and equipment
- perform routine safety, service and maintenance procedures on tools, equipment and machinery
- operate hand and independently powered tools and cleaning equipment to industry standards
- clean, secure and store machinery and equipment
- perform basic trouble shooting
- recognise and rectify minor operational faults
- handle hazardous substances (fuels) safely
- work in confined spaces
- use communication systems
- interpret and apply task instructions, communicate with work team and supervisor, and record and report faults, workplace hazards and accidents.
- read and interpret manufacturer's specifications, work and maintenance plans, and Material Safety Data Sheets.

Required knowledge

- range of construction methods, potential hazards, safety and structural requirements for storage
- erection/dismantling for types of temporary storage used by organisation
- organisation and commodity quality requirements for grain storage

REQUIRED SKILLS AND KNOWLEDGE

- organisation hygiene requirements
- typical signs of structural damage to be documented and reported
- pre-operational and safety checks, servicing and maintenance procedures for tools and equipment
- general machine maintenance procedures
- machinery operating principles and operating methods
- machinery storage and protection methods
- cleaning and storage of machinery, equipment and materials
- environmental impacts associated with the operation of machinery and equipment
- appropriate action in contingency situations
- organisation requirements for protective equipment and safe practices in relation to OHS
- potential hazards associated with the operation of basic tools and equipment
- relevant State/Territory legislation, regulations and codes of practice with regard to workplace OHS, environment and the use and control of machinery and equipment
- appropriate legislative requirements, manufacturer's instructions and organisation procedures/ instructions
- personal protective clothing and equipment and when and how it should be used
- organisational recording and reporting procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • prepare the storage area for access by grain carriers • comply with OHS requirements for working in confined spaces • prepare grain storages by removing all residues and checking structure • erect simple temporary bulk material storages • prepare and test grain handling machinery • perform routine safety, service and maintenance procedures on tools, equipment and machinery.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Storage areas may include:	<ul style="list-style-type: none"> • permanent and/or temporary storages • the surrounding areas • entry, exit and site roads.
Storage equipment may include:	<ul style="list-style-type: none"> • fixed and/or portable grain handling equipment.

Unit Sector(s)

Unit sector	Broadacre cropping
--------------------	--------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCBUS405A Participate in an e-business supply chain

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers participation in an e-business supply chain and defines the standard required to: define the business model and how it can use e-business; develop procedures and systems for e-business; implement an e-business supply chain; monitor and review e-business systems as part of managing the business.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to farm managers who use an e-business supply chain to adjust production to meet the requirements of that supply chain.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare e-business systems and procedures	<p>1.1. Supply chain requirements are identified and validated as required.</p> <p>1.2. Technology requirements are identified.</p> <p>1.3. Technology is brought online in accordance with requirements and budget.</p> <p>1.4. Policies and procedures are designed to guide business relations and operations in accordance with supply chain requirements.</p> <p>1.5. Supporting business processes and outputs are designed or re-designed to support requirements of the e-business supply chain.</p> <p>1.6. Information and development support is provided to staff, customers and suppliers to assist in implementation the requirements of the e-business supply chain.</p>
2. Implement e-business systems and procedures	<p>2.1. Production processes required by e-business supply chain are implemented.</p> <p>2.2. Online purchasing, selling and payments are conducted as required by the e-business supply chain with reference to associated risk management strategies and relevant legal and ethical requirements.</p> <p>2.3. Business processes and data flows required by the e-business supply chain are identified and adjusted as required.</p> <p>2.4. Actions to build trust and foster a supply chain culture are implemented in accordance with supply chain ethos.</p>
3. Monitor and review e-business systems and procedures	<p>3.1. E-business innovation/s are integrated into the business and monitored to gauge their usefulness and maximise implementation.</p> <p>3.2. E-business innovation is reviewed in consultation with users and recommendations for improvement or further innovation documented and evaluated.</p> <p>3.3. Business data and reports are used to compare outcomes, budgets, timelines and forecasts to actual performance.</p> <p>3.4. Technology performance is reviewed and recommendations made for improvements to hardware, software and/or their use in accordance with e-business strategy and budget.</p> <p>3.5. Feedback and evaluation results are used to plan and</p>

ELEMENT	PERFORMANCE CRITERIA
	improve future supply chain management strategies.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- use relevant technology such as computers, handheld scanners, bar-coding equipment
- prepare production data in the format required by the e-business supply chain
- meet production deadlines required by e-business supply chain
- use literacy skills to read, interpret and follow organisational policies and procedures, develop sequenced written instructions, record accurately and legibly information collected and select and apply procedures to a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification, negotiating solutions and responding to a range of views
- use numeracy skills to estimate, calculate and record routine and more complex workplace measures and data
- use interpersonal skills to work with others and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- the entire supply chain from raw materials to producers, component suppliers, manufacturers, wholesalers, third party service providers, retailers, customers and recyclers, plus freight, distribution and cash flow
- technology hardware and software requirements of the e-business supply chain
- protocols for electronic data interchange
- personal identification and password for online access between businesses for access to inventory data and purchasing, payment or supply processes
- banking information for electronic funds transfer
- protocols for to e-business legal and security issues
- e-business terminology.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • define the business model and how it can use e-business • develop procedures and systems for e-business • implement an e-business supply chain • monitor and review e-business systems as part of managing the business.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Elements of the e-chain may include:	<ul style="list-style-type: none"> • entire cycle from raw materials to producers • component suppliers • manufacturers • wholesalers • third party service providers • retailers • customers and recyclers • freight, distribution and cash flow.

Unit Sector(s)

Unit sector	Business
--------------------	----------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCCHM101A Follow basic chemical safety rules

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers following basic chemical safety rules and defines the standard required to: interpret chemical safety rules; follow safety instructions including handling and storage; use personal protective equipment and communicate information about spillage or accidents.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the observance of basic chemical safety rules. including those about labels, transport, handling, storage and personal protective equipment.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Follow workplace requirements and instructions concerning chemicals	1.1.Roles and responsibilities of people in the workplace are identified. 1.2.Safety procedures involved in chemical handling and use are recognised and followed as required. 1.3.Occupational Health and Safety (OHS) hazards are identified and reported to the supervisor. 1.4.Organisational procedures are followed with regard to chemicals.
2. Recognise risks associated with chemicals	2.1.Functions of chemicals in the workplace are recognised. 2.2.Chemical labels and symbols are recognised and hazards identified. 2.3.Chemical storage locations are identified. 2.4.Instructions for transport, handling and storage of chemicals are recognised and observed. 2.5.Instructions for use, maintenance and storage of personal protective equipment and application equipment are identified and observed.
3. Follow chemical handling and storage rules	3.1.Chemical handling and storage instructions on labels are followed. 3.2.Safety rules are followed when working in areas where chemicals are stored. 3.3.Appropriate personal protection equipment is obtained and used when working in areas where chemicals are stored. 3.4.Procedures are followed in the event of an accident or spillage.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- interpret labels and instructions
- follow workplace instructions and directions from the chemical label or Material Safety Data Sheets (MSDSs)
- communicate information about spillages, accidents or deficiencies in procedures

REQUIRED SKILLS AND KNOWLEDGE

and practice

- use appropriate Personal Protective Equipment (PPE)
- recognise caution or hazard signs and symbols
- interpret tasks or information from labels, manuals or written instructions
- record information accurately or verbally report information
- use oral communication skills/language competence to communicate effectively with others
- use numeracy skills to complete basic calculations
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds.

Required knowledge

- basic occupational health&safety rules required to work near and around chemicals
- level of hazard and the Poisons Schedule in the relevant State or Territory
- chemicals being used for the control of pests and weeds
- personal protection equipment and when and how it should be used, stored and maintained
- correct wearing/fit of personal protective equipment
- environmental impacts of chemical use
- OHS, environmental and pesticides legislation and enterprise procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • interpret chemical safety rules • follow safety instructions including handling and storage • use personal protective equipment • communicate information about spillage or accidents.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Safety rules may include:	<ul style="list-style-type: none"> • those about labels • transport • handling • storage • personal protective equipment.

Unit Sector(s)

Unit sector	Chemicals
--------------------	-----------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
------------------	--

AHCCHM201A Apply chemicals under supervision

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of applying chemicals under supervision using handheld or small powered equipment, and defines the standard required to: apply chemicals using handheld or small powered equipment; check, prepare, use and maintain application equipment and personal protective equipment; measure, mix, transport, handle store and dispose of chemicals and comply with Occupational Health and Safety (OHS), chemical label and Material Safety Data Sheets (MSDSs) requirements.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to working under supervision with reference to the product label, legislation and enterprise procedures. This unit may be deemed to have a time limit when used as part of an accreditation or licence process.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Check application and personal protective equipment	1.1. Carry out pre-operational checks of application equipment in accordance with manufacturer's specification and OHS requirements. 1.2. Prepare application equipment for use in accordance with manufacturer's specification and directions. 1.3. Identify and replace any damaged or worn components. 1.4. Check personal protective equipment in accordance with manufacturer's specification and OHS requirements.
2. Prepare application equipment	2.1. Apply label information regarding precautions for the chemical mix/substance being used. 2.2. Select and use appropriate personal protective and mixing equipment in accordance with MSDSs and chemical label. 2.3. Measure, mix and load chemical mix or substances in accordance with directions on chemical label. 2.4. Follow legislative and regulatory requirements regarding chemical use including OHS. 2.5. Confirm instructions from chemical MSDSs in the event of a spill. 2.6. Check that output of application equipment is correct and in accordance with application/spray plan.
3. Apply chemicals	3.1. Assess and record meteorological conditions and forecasts prior to and during application. 3.2. Select and use appropriate personal protective equipment in accordance with MSDSs and chemical label. 3.3. Apply chemical in accordance with the application/spray plan and/or instructions. 3.4. Assess and minimise risks to others, product integrity and the environment prior to and during application.
4. Finalise work	4.1. Clean and store Personal Protective Equipment (PPE) and application equipment in accordance with manufacturer's specification and OHS requirements. 4.2. Dispose of excess chemicals and use triple rinse drums in accordance with label and MSDSs requirements. 4.3. Complete incident reports as required in accordance

ELEMENT	PERFORMANCE CRITERIA
	with legislative and/or regulatory requirements. 4.4. Complete application records. 4.5. Store unused chemical/products in accordance with label requirements and MSDSs. 4.6. Adhere to all re-entry and withholding periods.
5. Transport and handle chemical	5.1. Confirm precautions for the transport and handling of chemicals. 5.2. Transport and handle chemicals in accordance with legislative and/or regulatory requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- identify hazards and adopt safe work practices
- conduct pre-operational checks of application equipment
- use and maintain personal protective equipment
- measure, mix and load chemical mixes
- use hand held and small powered application equipment relevant to the industry sector using safe and environmentally responsible work practices
- interpret labels, record relevant information and measure application amounts
- follow chemical label requirements and application/spray plan
- record activities and maintain records
- transport and handling techniques
- respond to emergencies and apply first aid in the event of pesticide poisoning
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge

- applied principles of Integrated Pest/Resistance Management
- structure of chemical label and MSDS
- types, applications, storage and fitting of personal protective equipment
- legislation and regulations including OHS and licensing requirements in relation to

REQUIRED SKILLS AND KNOWLEDGE

chemical use

- features and functions of a range of application equipment relevant to the industry sector
- risk factors including human and animal health, spillage and environmental
- principles of transport, handling and storage for chemicals
- requirements for disposal of excess chemicals, clearing spillages and equipment clean up
- transport and handling requirements
- environmental effects of selected chemicals and how to minimise damaging effects of chemicals
- different broad chemical types, eg, insecticides, herbicides and fungicides and their mode of action symbols on the label
- paths of entry of poisons into the body and methods of limiting exposure
- methods of minimising risk during application
- Regulations and Codes of Practices with regard to hazardous substances of the use of chemicals
- OHS concerning personal safety and safety of others in the workplace
- alternatives to chemicals for pest management
- possible effects on health of bystanders/public in addition to applicators
- weather conditions and means of assessing them in line with risks, and recognising when they become unsuitable for application to continue.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • apply chemicals using handheld or small powered equipment • check, prepare, use and maintain application equipment and personal protective equipment • measure, mix, transport, handle store and dispose of chemicals • comply with OHS, chemical label and MSDSs requirements.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Chemicals may include:	<ul style="list-style-type: none"> • the application of liquid chemical mixes • granular products • and/or biological agents used in the control of pest, weeds and diseases including animal health products.

Unit Sector(s)

Unit sector	Chemicals
-------------	-----------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
------------------	--

AHCCHM303A Prepare and apply chemicals

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of preparing and applying chemicals and defines the standard required to: assess the need for chemical use: comply with safety, chemical label and MSDS requirements; prepare an application/spray plan; prepare and apply chemicals; calibrate application equipment and maintain chemical records.
------------------------	---

Application of the Unit

Application of the unit	This unit covers the preparation and application of liquid chemical mixes and/or granular products for the control of weeds, pests and diseases across a range of industry sectors. This unit may be deemed to have a time limit when used as part of an accreditation or licence process.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Determine the need for chemical use	1.1. Nature and level of the pest, weed infestation or disease is identified. 1.2. Need for control is assessed. 1.3. The requirement for chemical use as an option within an integrated pest management strategy is assessed. 1.4. Hazard and risk analysis of different chemical options is undertaken. 1.5. Requirement for chemical application is identified and confirmed.
2. Prepare application/spray plan	2.1. Mixing rates for chemical is defined and calculated. 2.2. Application equipment type and set up requirements are determined for intended application. 2.3. The quantity of mix required is determined. 2.4. Meteorological conditions and forecasts prior to and during application are accessed. 2.5. An application/spray plan is completed. 2.6. Notify neighbours as required in accordance with industry practice or regulatory requirements
3. Prepare chemical mixes	3.1. Requirements from chemical labels and Material Safety Data Sheets (MSDSs) are interpreted and applied. 3.2. Appropriate first aid supplies are at hand. 3.3. Appropriate personal protective and mixing equipment is selected and used in accordance with MSDSs and chemical label. 3.4. A suitable location for mixing and loading is selected. 3.5. Chemicals are prepared in accordance with registered use. 3.6. MSDSs are followed in the event of a spill.
4. Calibrate application equipment	4.1. Pre-operational checks of application equipment are carried out. 4.2. Equipment is calibrated in accordance with manufacturer specifications and application/spray plan. 4.3. Calibration is checked for conformity to the requirements of the application/spray plan. 4.4. Chemical is loaded wearing appropriate Personal Protective Equipment (PPE) and controlling risks to human health and the environment.

ELEMENT	PERFORMANCE CRITERIA
5. Apply chemicals	5.1. Appropriate personnel protective equipment is selected and used in accordance with MSDSs and chemical label. 5.2. Chemical is applied in accordance with the application/spray plan and/or instructions and legislative and/or regulatory requirements. 5.3. Risks to others, product integrity and the environment are assessed and minimised.
6. Clean up equipment and complete records	6.1. Excess chemical is disposed of in accordance with label and MSDSs requirements. 6.2. Application equipment is cleaned and decontaminated. 6.3. Requirements for the disposal of unused chemical, containers spilled materials are determined and implemented 6.4. PPE and mixing equipment is cleaned and stored. 6.5. Incidents are reported as required in accordance with legislative and/or regulatory requirements. 6.6. All records, e.g. calibration, application, DG/hazard substances, risk assessments, are completed in accordance with legislative, industry and enterprise requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- identify hazards and implement risk control procedures
- identify appropriate treatment for pest, disease or weed
- mix and load chemicals
- conduct pre-operational checks of application equipment
- calibrate handheld and/or powered application equipment relevant to the industry sector
- interpret and apply chemical label requirements in the preparation of an application/spray plan
- apply chemicals

REQUIRED SKILLS AND KNOWLEDGE

- use and maintain PPE
- dispose of surplus chemical and containers
- record activities and maintain records
- use literacy skills to read, interpret and follow organisational policies and procedures, follow sequenced written instructions, record accurately and legible information collected and select and apply procedures for a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- options for pest control based on Integrated Pest/Resistance Management principles
- plant, pest, weed and/or diseases relative to industry sector
- chemical label and MSDSs formats
- meteorological and other conditions and impacts on safe and effective chemical application
- types and application of personal protective equipment
- features, functions and calibration techniques for a range of hand held and/or powered application equipment relevant to the industry sector
- risk factors including human and animal health, weather, spray drift, spillage and environmental
- spray nozzle identification, selection, operation and use
- chemical mix including mixing order, adjuvants, water quality, efficacy etc
- application techniques for a range of equipment types
- requirements for disposal of excess chemicals, clearing spillages and equipment clean up
- legislation including Occupational Health and Safety (OHS) and environment, and licensing requirements, in relation to chemical use.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • assess the need for chemical use • comply with safety, chemical label and MSDSs requirements • prepare an application/spray plan • prepare and apply chemicals • calibrate application equipment • maintain chemical records
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Chemical types may include:	<ul style="list-style-type: none"> • all types of chemical mixes used in the control of pests, weeds and diseases including animal health products.
This unit does not cover:	<ul style="list-style-type: none"> • operation of specialised equipment and machinery transport • handling and storage of chemicals set up of advanced operation • specialised on-board control equipment.

Unit Sector(s)

Unit sector	Chemicals
-------------	-----------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
------------------	--

AHCCHM304A Transport, handle and store chemicals

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of transporting, handling and storing chemicals safely and identifies the standard required to: correctly maintain and use personal protective equipment (PPE) according to label; follow emergency procedures for chemical spillage; follow legislative requirements for the safe transport of chemicals; and maintain storage area and chemical manifest.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the safe transport, handling and storage of liquid and dry chemical formulations across a range of industry sectors. The work is likely to be carried out unsupervised. Responsibility for and limited organisation of the work of others may be involved. This unit may be deemed to have a time limit when used as part of an accreditation or licensing process.
--------------------------------	--

Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Transport and handle chemicals and biological agents	<p>1.1. Transport requirements are identified and followed from legislative and regulatory requirements, including Occupational Health and Safety (OHS).</p> <p>1.2. Risks involved in the transport and handling of chemical and biological agents are assessed and minimised.</p> <p>1.3. Containers are confirmed as being in a sound condition to transport.</p> <p>1.4. PPE is used as required according to manufacturer specifications and OHS requirements.</p> <p>1.5. Instructions from chemical material safety data sheets (MSDS) are followed in the event of a spill.</p> <p>1.6. Transport incidents are reported as required according to legislative and/or regulatory requirements.</p> <p>1.7. Appropriate first aid kit and spill kit are confirmed as being on hand for all stages of transport, handling and storage.</p>
2. Store chemicals in the workplace	<p>2.1. Appropriate storage methods are used according to chemical labels, MSDS, and/or legislative and regulatory requirements.</p> <p>2.2. Risks involved in storage of chemical and biological agents are assessed and minimised.</p> <p>2.3. Storage area is maintained according to legislative and regulatory requirements, including OHS and environmental protection.</p> <p>2.4. Products are retained in original containers with labels intact.</p> <p>2.5. Storage methods are utilised to prevent contact with people or animals, contamination of produce or the environment.</p> <p>2.6. Correct disposal procedures are applied for used chemical drums and storage containers.</p> <p>2.7. Unwanted and/or out-of-date chemicals are disposed of according to legislative and/or regulatory requirements and industry programs.</p>
3. Record storage details	<p>3.1. Chemical storage inventory and records are maintained according to legislative and regulatory requirements, including OHS.</p> <p>3.2. Storage incidents are reported as required according to legislative and/or regulatory requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- transport, handle and store chemicals safely
- follow chemical label and MSDS requirements for transport handling and storage
- maintain records
- use literacy skills to read, interpret and follow organisational policies and procedures, follow sequenced written instructions, record information collected accurately and legibly, and select and apply procedures for a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- transport handling and storage requirements on chemical labels and MSDS
- types and application of PPE used in transport and handling
- legislation and regulations, including OHS and licensing requirements in relation to chemical storage and transport
- risk factors, including human, animal health and environmental associated with transport, handling and storage
- requirements for disposal of excess, unwanted and/or out-of-date chemicals
- requirements for disposal of used chemical containers and/or drums
- processes for clearing spillages and clean up.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • transporting, handling and storing chemicals safely • identify the standard required to correctly maintain and use PPE according to label • follow emergency procedures for chemical spillage • follow legislative requirements for the safe transport of chemicals • maintain storage area and chemical manifest.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Chemicals handling may include:	<ul style="list-style-type: none"> • requirements for the safe transport, handling and storage of chemicals and products used in the control of pest, weeds and diseases, including animal health products.
This unit does not cover:	<ul style="list-style-type: none"> • operation of specialised chemical application equipment and machinery, application of chemicals. See separate units of competency under the appropriate category.

Unit Sector(s)

Unit sector	Chemicals
-------------	-----------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
------------------	--

AHCINF204A Fabricate and repair metal or plastic structures

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of undertaking minor fabrication and repair of metal or plastic structures where the services of a specialist trades person is not necessary, and defines the standard required to: identify job requirements and select materials, tools and equipment; apply safe work practices including use of Personal Protective Equipment (PPE); identify and use jointing methods and safe repair/fabrication techniques; clean up after operations.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to the working autonomously and would be carried out unsupervised within enterprise guidelines.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for fabrication and/or repair	1.1. Items for repair or fabrication are identified against work plans using industry recognised techniques. 1.2. Equipment appropriate to job requirements is selected and confirmed against work plan. 1.3. Jointing/welding materials suitable to the job requirements are selected. 1.4. Potential and existing hazards in the workplace are identified and reported to the supervisor.
2. Assist with maintaining structures and facilities	2.1. Suitable personal protective equipment is selected, used and maintained according to Occupational Health and Safety (OHS) and enterprise requirements. 2.2. Equipment and structures are safely repaired or fabricated according to enterprise requirements and industry standards. 2.3. Jointing methods used in the fabrication and/or repair structures and equipment are according to enterprise requirements and industry standards.
3. Complete fabrication and repair	3.1. Materials and equipment are cleaned and stored according to manufacturer's guidelines and enterprise policy. 3.2. Work area is cleaned and maintained, and any hazardous materials removed in an environmentally responsible manner. 3.3. Completed work is detailed and recorded according to enterprise requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
<ul style="list-style-type: none"> • safely use welding and thermal cutting equipment • demonstrate safe and environmentally responsible workplace practices • read and interpret manufacturers specifications, work and maintenance plans, and MSDS • effectively communicate information, interpret and apply task instructions, and

REQUIRED SKILLS AND KNOWLEDGE

maintain records and reports

- estimate and measure dimensions, and calculate volumes
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge

- types of fabrication materials and their various applications
- range of metals and non-metal materials that may be used in fabrication and repair
- industry jointing/welding techniques and fabrication and repair methods
- OHS legislative requirements
- environmental codes of practice with regard to equipment operation and maintenance activities
- operating principles and operating methods for equipment
- various types of welders and respective functions
- environmental impacts and minimisation measures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • identify job requirements and select materials, tools and equipment • apply safe work practices including use of PPE • identify and use jointing methods and safe repair/fabrication techniques • clean up after operations.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Fabrication may include:	<ul style="list-style-type: none"> • working with metal, fibreglass and plastic components in the manufacture, repair and/or installation of plant, equipment and structures.
Equipment may include:	<ul style="list-style-type: none"> • cutting tools • welding and thermal cutting equipment • soldering irons.
Jointing methods may include:	<ul style="list-style-type: none"> • silver soldering • soldering • solid rivets • pop rivets

RANGE STATEMENT	
	<ul style="list-style-type: none"> • folding • self tapping screws • glues • silicones.
Materials may include:	<ul style="list-style-type: none"> • iron and steel • copper or brass • aluminium • cast iron • high tensile steel • gun metal • plastics.
Fabrication techniques may include:	<ul style="list-style-type: none"> • cutting • forming • jointing • welding • brazing • soft soldering • thermal cutting • hot air welding • drilling • plastic welding and forming • brazing or welding cast iron including the use of pre-heating and controlled cooling • the use of the full range of jointing techniques • the use of masonry anchors and bolts • silver soldering of high tensile materials • gas welding or silver soldering copper piping • metal forming and wrought iron fabrication • hard facing techniques • thread cutting or tapping.
Welding techniques may include:	<ul style="list-style-type: none"> • manual metal arc welding (MMAW) • gas metal arc welding (MGAW) • gas tungsten arc welding (GTAW) • oxy acetylene (or fuel gas) welding (OAW).

Unit Sector(s)

Unit sector	Infrastructure
--------------------	----------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCMOM101A Assist with routine maintenance of machinery and equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assisting with routine maintenance of machinery and equipment, and defines the standard required to: test machinery and equipment to identify faults; carry out basic repairs; complete work records and clean up work area.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the provision of support to others undertaking maintenance on small engine machinery including hand tools and equipment.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
<p>1. Prepare for basic routine maintenance</p>	<p>1.1. Tools and supplies required to carry out basic routine maintenance tasks are identified, selected and provided on site according to supervisor's instructions.</p> <p>1.2. Routine pre-operational checks of machinery and equipment are carried out and adjustments made according to manufacturers specifications and/or enterprise procedures.</p> <p>1.3. Faulty or unsafe machinery and equipment are identified and segregated for repair or replacement according to enterprise requirements.</p> <p>1.4. Occupational Health and Safety (OHS) hazards in the workplace are identified and reported to the supervisor.</p>
<p>2. Carry out basic routine maintenance</p>	<p>2.1. Suitable personal protective equipment is stored, selected, used and maintained according to OHS requirements.</p> <p>2.2. Greasing, lubrication and other basic servicing of machinery and equipment are carried out according to operator's manual/manufacturer's specifications and supervisor's instructions.</p> <p>2.3. Routine adjustments and repairs are made to machinery and equipment according to operator manual/manufacturer's specifications and supervisor's instructions.</p> <p>2.4. Work is conducted according to OHS requirements and completed to supervisor's satisfaction.</p>
<p>3. Complete basic routine maintenance activities</p>	<p>3.1. Tools are cleaned, returned to operating order and stored according to manufacturer's specifications and enterprise requirements.</p> <p>3.2. Environmental procedures are followed and waste from maintenance activities is collected, treated and disposed or recycled according to enterprise requirements.</p> <p>3.3. Work area is cleaned and maintained according to OHS and enterprise requirements.</p> <p>3.4. Malfunctions, faults, wear or damage to tools are reported to the supervisor according to enterprise requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- demonstrate safe and environmentally responsible workplace practices
- read and interpret manufacturers specifications, work and maintenance plans, safety decals and Material Safety Data Sheets (MSDSs)
- measure and calculate volumes, consumption and lubrication requirements
- use literacy skills to read and follow a range of basic instructions
- use oral communication skills/language competence to communicate effectively with others
- use numeracy skills to complete basic calculations
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds.

Required knowledge

- types, characteristics and functions of machinery and equipment
- machinery and equipment testing and operating procedures
- types, characteristics and functions of tools used in maintenance of machinery and equipment
- OHS legislative requirements
- Codes of Practice with regard to the use and control of hazardous substances and/or working in confined spaces
- environmental Codes of Practice with regard to maintenance activities and disposal of fuels and oils.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • test machinery and equipment to identify faults • carry out basic repairs • complete work records • clean up work area.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Maintenance may involve:	<ul style="list-style-type: none"> • small engine machinery including hand tools and equipment.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
--------------------	-------------------------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCMOM202A Operate tractors

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of operating tractors with or without attached equipment and defines the standard required to: carry out pre-operational checks and maintenance including tagging defects; set and secure attachments according to manufacturer's directions; operate tractor in a safe and controlled manner; implement shut-down procedures; store machinery and equipment and record maintenance and operation details.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to workers in the agriculture, horticulture or land management sectors who operate tractors under some supervision with regular checking and within enterprise guidelines.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare tractor for operation	<p>1.1. Occupational Health and Safety (OHS) hazards in the work area are identified and safety concerns reported to the supervisor.</p> <p>1.2. Routine checks of tractors are conducted prior to use according to manufacturer's specifications and enterprise requirements.</p> <p>1.3. Attached equipment is identified and selected appropriate to work requirements, checked for safety and set for operation.</p> <p>1.4. Tractor and attached equipment faults or malfunctions are identified and reported for repair according to enterprise requirements.</p>
2. Operate tractor	<p>2.1. Risks to self, others and the environment are recognised and avoided according to enterprise requirements.</p> <p>2.2. Suitable personal protective equipment is used, maintained and stored according to enterprise requirements.</p> <p>2.3. Tractor is operated according to low risk operating procedures in a controlled manner and monitored for performance and efficiency.</p> <p>2.4. Environmental impacts associated with tractor operation are recognised and minimised according to directions.</p>
3. Complete and check tractor operation	<p>3.1. Shut-down procedures are conducted according to manufacturer's specifications and enterprise requirements.</p> <p>3.2. Malfunctions, faults, irregular performance or damage to tractor and attached equipment is detailed and reported according to enterprise requirements.</p> <p>3.3. Tractor and attached equipment is cleaned and decontaminated where necessary, secured and stored according to enterprise and OHS requirements.</p> <p>3.4. Tractor operational reports are maintained to industry standards according to enterprise requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- identify hazards and implement safe operating procedures
- steer, manoeuvre and position tractor in a smooth and controlled manner
- utilise the various components and controls of tractors
- set and secure equipment for operation
- safely and effectively operate tractors in adverse weather and difficult terrain conditions
- demonstrate safe and environmentally responsible workplace practices
- interpret manufacturers specifications, work and maintenance plans, and Material Safety Data Sheets (MSDSs)
- effectively communicate faults and hazards, interpret and apply task instructions, report and maintain operational records
- calculate and measure distance, volumes and weights
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge

- tractor components, controls and features and operational functions
- tractor steering systems and features
- attached equipment, features and operational functions and procedures
- operating principles and operating methods
- load limits and the principles of weight distribution with regard to load shifting and tractor movement
- distinguishing characteristics of individual tractors including rated power
- effects of adverse weather and difficult terrain conditions on tractor operation
- duty of care to self, others and the environment
- use and control of hazardous substances.
- relevant legislation with regard to machinery operation and licensing requirements
- environmental Codes of Practice with regard to machinery operation
- OHS legislative requirements, Codes of Practice, hazard identification and risk assessment.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include evidence of the following:</p> <ul style="list-style-type: none"> • carry out pre-operational checks and maintenance including tagging defects • set and secure attachments according to manufacturer's directions • operate tractor in a safe and controlled manner • implement shut-down procedures • store machinery and equipment • record maintenance and operation details.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Tractors may include:	<ul style="list-style-type: none"> • two wheel drive • four wheel drive • front wheel assist tractors.
Steering systems may include:	<ul style="list-style-type: none"> • conventional front-wheel steering • all wheel steering.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
-------------	-------------------------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
------------------	--

AHCMOM203A Operate basic machinery and equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of operating and maintaining machinery and equipment and defines the standard required to: carry out pre-operational checks and maintenance; tag and report defects if necessary; secure attachments according to manufacturer's directions; operate machinery in a safe and controlled manner; implement shut-down and storage procedures; record maintenance and operation details.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to workers who operate and maintain machinery and equipment for agricultural, horticultural or land management enterprises. It is usually conducted within established routines, methods and procedures within enterprise guidelines.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare basic machinery and equipment for use	<p>1.1. Machinery and equipment are identified and selected in accordance with supervisor's instructions.</p> <p>1.2. Routine pre-operational checks of machinery and equipment are carried out to manufacturer's specifications and/or enterprise procedures.</p> <p>1.3. Unsafe or faulty machinery and equipment are identified and segregated for repair or replacement in line with enterprise requirements.</p> <p>1.4. Occupational Health and Safety (OHS) hazards are identified and safety concerns reported to the supervisor.</p>
2. Operate basic machinery and equipment	<p>2.1. Personal Protective Equipment (PPE) is used and maintained according to procedures.</p> <p>2.2. Machinery and equipment are operated to manufacturer's specifications and in accordance with supervisor's instructions.</p> <p>2.3. Work is completed to supervisor's satisfaction and in accordance with OHS requirements.</p> <p>2.4. Environmental implications associated with machinery operation and maintenance are identified and accounted for.</p>
3. Check, clean and store basic machinery and equipment	<p>3.1. Machinery and equipment use is detailed and recorded in accordance with enterprise requirements.</p> <p>3.2. Machinery and equipment are cleaned, secured and stored to manufacturer's specifications and supervisor's instructions.</p> <p>3.3. Malfunctions, faults, wear or damage to machinery and equipment are identified and reported in line with enterprise requirements.</p> <p>3.4. Workplace areas are cleaned and maintained in line with OHS and enterprise requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

REQUIRED SKILLS AND KNOWLEDGE

- use, maintain and store personal protective clothing and equipment
- use safe operating procedures for basic machinery and equipment
- carry out pre start checks for basic machinery and equipment
- carry out basic servicing and maintenance of basic machinery and equipment
- operate basic machinery and equipment
- recognise caution or hazard signs and symbols
- interpret tasks or information from labels, manuals or written instructions
- record information accurately or verbally report information
- use literacy skills to follow sequenced written instructions and record information accurately and legibly
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge

- pre-operational and safety checks for basic machinery and equipment
- hazards associated with the operation of basic machinery and equipment
- operating principles and operating methods for basic machinery and equipment
- procedures for cleaning, securing and storing basic machinery and equipment
- risks associated with the operation of machinery and equipment in different weather and difficult terrain conditions
- relevant State/Territory legislation, regulations and Codes of Practice with regard to workplace OHS requirements, and the use and control of hazardous substances
- environmental impacts and minimisation measures associated with the operation of basic machinery and equipment
- enterprise policies with regard to machinery and equipment use, recording and reporting routines.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • carry out pre-operational checks and maintenance • tag and report defects if necessary • secure attachments according to manufacturer's directions • operate machinery in a safe and controlled manner • implement shut-down and storage procedures • record maintenance and operation details.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Basic machinery and equipment includes:	<ul style="list-style-type: none"> • lawn mowers • line cutters • lawn edgers • mechanized horticultural tillage equipment • motorised machinery used in landscape and turf construction projects • motorised machinery used in nursery production • pneumatic pruners and cutters • power tools

RANGE STATEMENT	
	<ul style="list-style-type: none"> conveyors and pumps as used in agriculture, horticulture and land management.
Basic machinery and equipment does not include:	<ul style="list-style-type: none"> chainsaws tractors vehicles earth moving equipment other machinery described elsewhere in these standards.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
--------------------	-------------------------------------

Co-requisite units

Co-requisite units	

Competency field

Competency field	
-------------------------	--

AHCMOM204A Undertake operational maintenance of machinery

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of undertaking operational maintenance of machinery and defines the standard required to: select and prepare tools and equipment; carry out lubrication and basic servicing; conduct basic diagnostic tests; report simple faults or report and tag more serious faults; collect, remove and recycle or dispose of wastes; maintain records of machinery maintenance.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to workers in the agriculture, horticulture and land management sectors who use non-specialist skills to perform basic servicing and repairs on a range of machinery according to scheduled maintenance programs. The operational maintenance of machinery will usually follow set routines, methods and procedures.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for maintenance	<p>1.1. Maintenance plans are accessed and understood prior to undertaking maintenance work.</p> <p>1.2. Tools and supplies are selected appropriate to job requirements and confirmed against maintenance plan.</p> <p>1.3. Tools are inspected for serviceability and prepared for use according to manufacturer's specifications and enterprise requirements.</p> <p>1.4. Occupational Health and Safety (OHS) hazards are identified and safety concerns reported to the supervisor.</p>
2. Perform scheduled maintenance	<p>2.1. OHS hazards are identified and safety concerns reported to the supervisor.</p> <p>2.2. Greasing, lubrication and other basic servicing of machinery are carried out according to manufacturer's specifications and enterprise requirements.</p> <p>2.3. Equipment is adjusted according to manufacturer's specifications and enterprise requirements.</p> <p>2.4. Basic diagnostic techniques are applied and mechanical faults are identified and rectified according to manufacturer's specifications.</p> <p>2.5. More serious or complex faults are reported for referral according to enterprise requirements.</p>
3. Complete maintenance activities	<p>3.1. Tools are cleaned and stored according to OHS and enterprise requirements.</p> <p>3.2. Waste from maintenance activities is collected, treated and disposed or recycled according to enterprise environmental requirements.</p> <p>3.3. Work areas are cleaned, returned to operating condition and maintained according to OHS and enterprise requirements.</p> <p>3.4. Relevant information is documented according to industry and enterprise requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- identify hazards and apply safe work practices
- use tools and equipment safely
- carry out basic servicing of machinery
- carry out basic mechanical fault finding and diagnostic tests
- refer complex mechanical faults to appropriate technician
- follow procedures to dispose of waste
- recognise caution or hazard signs and symbols
- interpret tasks or information from labels, manuals or written instructions
- record information accurately or verbally report information
- use literacy skills to follow sequenced written instructions and record information accurately and legibly
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge

- types and uses of lubricants and other commonly used servicing materials
- operational principles of machinery including mechanical and auto-electrical systems
- servicing characteristics of plant and equipment
- types, characteristics, uses and limitations of hand power tools
- functions of components of common mechanical and hydraulic systems
- working principles of 2-stroke, 4-stroke, petrol and diesel engines
- set-up requirements of plant and equipment, and principles of calibration
- basic diagnostic processes and techniques
- environmental Codes of Practice with regard to maintenance activities
- OHS and environmental legislative and enterprise requirements and Codes of Practice
- hazard identification and OHS procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • select and prepare tools and equipment • carry out lubrication and basic servicing • conduct basic diagnostic tests • report simple faults or report and tag more serious faults • collect, remove and recycle or dispose of wastes • maintain records of machinery maintenance.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Operational maintenance of machinery may include:	<ul style="list-style-type: none"> • the basic operational maintenance of a range of agricultural, horticultural or land management machinery.
Machinery may include:	<ul style="list-style-type: none"> • sprayers • tractors • mechanical pruners • harvesters • turf mowers • rotary hoes

RANGE STATEMENT	
	<ul style="list-style-type: none"> • chainsaws • hedge trimmers • winches • vehicles • motorcycles.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
--------------------	-------------------------------------

Co-requisite units

Co-requisite units	

Competency field

Competency field	
-------------------------	--

AHCMOM207A Conduct front-end loader operations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of using front-end loaders on rural lands and defines the standard required to: operate the machine safely; operate the machine's features and attachments consistent with operator manual; carry out day to day servicing and minor maintenance.
------------------------	--

Application of the Unit

Application of the unit	This unit relates to the operation and maintenance of front-end loaders used on rural lands.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for operations	<p>1.1. Safety rules and regulations, including site rules and legislation and site specific instructions are observed.</p> <p>1.2. Pre start checks are carried out in accordance with manufacturer's and site authorised procedures.</p> <p>1.3. Briefings or hand over details are received, interpreted and clarified in accordance with site requirements.</p>
2. Operate front-end loader	<p>2.1. Start-up, park-up, shut-down and communication procedures are carried out in accordance with manufacturers' and/or site specific requirements.</p> <p>2.2. Front-end loader operations are conducted, controlled and monitored within equipment and operational limitations.</p> <p>2.3. Safe operating practices, including operating controls, monitoring gauges and systems, conducting safety checks and use of two way radio for communication are carried out within manufacturers' and/or site specific requirements.</p> <p>2.4. Loading technique is selected and modified to appropriately meet changing work conditions which may include variable grades, work under high faces, work with varying materials, haulage units and materials handling facilities.</p> <p>2.5. Safe towing practices are demonstrated in accordance with the authorised equipment and connection capabilities.</p>
3. Carry out basic operator maintenance	<p>3.1. Inspection and fault finding are conducted in accordance with manufacturers' specifications and/or site requirements and reported.</p> <p>3.2. Routine operational servicing and lubrication tasks are carried out to manufacturers' and/or site requirements.</p> <p>3.3. Minor maintenance is carried out to manufacturers' and/or site requirements.</p> <p>3.4. Records are maintained in accordance with site requirements.</p> <p>3.5. Vehicle washing and housekeeping is carried out to manufacturers' and/or site requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- access, interpret and apply technical information
- maintain equipment records
- use relevant hand tools
- work wearing personal protective equipment
- operate front-end loaders in accordance with site/manufacturer's specifications
- recognise caution or hazard signs and symbols
- interpret tasks or information from labels, manuals or written instructions
- record information accurately or verbally report information
- use literacy skills to follow sequenced written instructions and record information accurately and legibly
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge

- site and equipment safety requirement
- equipment characteristics, technical capabilities and limitations
- operational and maintenance procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • operate the machine safely • operate the machine's features and attachments consistent with operator manual • carry out day to day servicing and minor maintenance.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Applications may include:	<ul style="list-style-type: none"> • all types of projects on farms and rural lands.
Safe operations may include:	<ul style="list-style-type: none"> • safe working limits (SWL) of machine • moving loads • working with other equipment and machinery • working near overhead powerlines and underground facilities.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
--------------------	-------------------------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCMOM301A Coordinate machinery and equipment maintenance and repair

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of coordinating machinery and equipment maintenance and repair for a small enterprise and defines the standard required to: seek technical advice on scale of repairs required where necessary; establish priorities for work to be carried out; calculate material and resource requirements and place orders; respond to contingencies and take corrective actions where necessary; monitor and document personnel, activities, timelines and materials usage; monitor and report on activities undertaken.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to workers in agriculture, horticulture and land management who ensure that machinery and equipment for the enterprise is maintained and repaired in a way that allows the core business of the enterprise to continue with minimal disruption.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for maintenance and repair work	<p>1.1. Requirements of the work responsibilities are clarified with the supervisor and according to enterprise guidelines.</p> <p>1.2. Equipment and material resource requirements are identified according to the scope of the coordination work and the supervisor's instructions.</p> <p>1.3. The priorities for maintenance and repair activities and time allocation is identified, documented and presented to the supervisor for verification.</p> <p>1.4. The environmental implications of the proposed maintenance and repair work are identified and the likely outcomes assessed and reported to the supervisor.</p> <p>1.5. Occupational Health and Safety (OHS) hazards are identified, risks assessed and risk controls are implemented.</p> <p>1.6. Personal Protective Equipment (PPE) is selected, used and maintained according to procedures.</p>
2. Maintain and repair machinery and equipment	<p>2.1. Equipment/machinery is maintained and repaired as authorised by the supervisor and according to enterprise guidelines and work place priorities.</p> <p>2.2. Materials to assist in maintenance and repair work are purchased, stored and/or used as required.</p> <p>2.3. Delivery of materials to the site is organised according to workplace priorities.</p> <p>2.4. Machinery and equipment is organised to be on-site in good order when they are required.</p> <p>2.5. Maintenance and repairs requiring specialist attention and work are identified and organised according to enterprise guidelines.</p>
3. Co-ordinate and report on maintenance and repair activities	<p>3.1. Resources are coordinated and timed to suit the maintenance and repair activities and priority of work.</p> <p>3.2. Operators are informed of appropriate use and their responsibilities in respect to operational maintenance requirements of machinery and equipment.</p> <p>3.3. Personnel, activities, timelines and materials usage are monitored and documented according to enterprise guidelines.</p> <p>3.4. Contingency situations are recognised and reported to the supervisor and corrective actions taken according to enterprise guidelines.</p>

ELEMENT	PERFORMANCE CRITERIA
	3.5. A simple report is written to inform management of maintenance and repair activities undertaken and completed.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- implement safe work procedures and ensure a safe workplace
- read and interpret documentation associated with work site activities
- calculate material and resource requirements
- co-ordinate a team to achieve optimum performance
- document results clearly and concisely
- perform an OHS risk assessment
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- work schedule programming
- possible causes of disruption to work activities and their effect on quality and time schedules
- responsibilities and requirements for maintaining and repairing machinery and equipment
- the range, use and availability of materials, equipment and machinery that may be required for the project
- environmental awareness associated with undertaking maintenance and repair work on machinery and equipment to ensure the impact on the environment is minimal
- OHS issues, legislative requirements and codes of practice.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • seek technical advice on scale of repairs required where necessary • establish priorities for work to be carried out • calculate material and resource requirements and place orders • respond to contingencies and take corrective actions where necessary • monitor and document personnel, activities, timelines and materials usage • monitor and report on activities undertaken.
Context of and specific resources for assessment	<p>Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole.</p>	
<p>Hazards may include:</p>	<ul style="list-style-type: none"> • disturbance of services • solar radiation • dust • noise • through traffic • uneven surfaces and holes • moving machinery and machinery parts

RANGE STATEMENT	
	<ul style="list-style-type: none"> • powered equipment and hand tools • hazards from use of hired equipment • overhead hazards including powerlines.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
--------------------	-------------------------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCMOM302A Perform machinery maintenance

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of maintaining machinery and equipment that is used principally in agriculture, horticulture, and conservation and land management work and defines the standard required to: carry out engine/equipment checks according to operator manuals and enterprise requirements; carry out lubrication and replacement of oils and filters according to operator manuals; carry out transmission checks, including drive and steering clutches and oil levels; check machinery and equipment components for wear and tear, and replace, tag and report defects if necessary; dispose of replaced parts and oils according to legislation and enterprise procedures; and record all details of maintenance and requirements for monitoring.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to workers in agriculture, horticulture and land management who ensure that machinery and equipment for the enterprise is maintained in a way that allows the core business of the enterprise to continue with minimal disruption. Some problem solving and organisational skills are also required.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Carry out engine/equipment checks	1.1. Timed and regular engine equipment checks are carried out on specialised machinery and equipment as specified in operator manuals. 1.2. All relevant grease or lubricant points are lubricated according to manufacturer specifications. 1.3. Oils and filters are changed at intervals prescribed in operator manuals. 1.4. Hydraulic hoses and systems checked for deterioration and defects actioned in line with supervisor's instructions. 1.5. Occupational Health and Safety (OHS) hazards are identified, risks assessed and risk controls are implemented.
2. Carry out transmission checks	2.1. Drive and steering clutches are checked for operation and adjustment in line with operator manual. 2.2. Transmission oil levels are checked in line with operator manual. 2.3. Tracks/wheels and undercarriage are checked for oil leaks and wear. 2.4. Faulty seals or leaks are identified and corrective actions taken according to operator's instructions. 2.5. Machine is regularly cleaned as an integral part of maintenance checks.
3. Maintain components and attachments	3.1. Personal protective equipment (PPE) is selected, used and maintained according to procedures. 3.2. Machine operational replacement wear components are checked for wear and condition. 3.3. Worn or unserviceable replacement components are replaced as part of daily routines. 3.4. Component inspection and replacement activities are completed safely following enterprise and industry guidelines. 3.5. Moving operational components are checked for wear and condition and adjusted to the tolerances specified in operator manuals where applicable. 3.6. Work areas are cleaned, returned to operating condition and maintained according to enterprise and OHS requirements.
4. Record maintenance	4.1. Identified faults and defects are recorded in machine record.

ELEMENT	PERFORMANCE CRITERIA
	<p>4.2. Maintenance procedures including duplicates usage are recorded in workshop record.</p> <p>4.3. Service or repair requirements are reported and actioned according to prescribed procedures.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- identify hazards and implement safe work procedures
- carry out engine/equipment checks
- carry out transmission checks
- replace parts and carry out lubrication required at servicing
- maintain machinery and equipment components
- use literacy skills to read, interpret and follow organisational policies and procedures, follow sequenced written instructions, record information collected accurately and legibly, and select and apply procedures for a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- engine function principles
- turbo charging and after cooling
- assessing engine specifications in line with power requirements
- all engine electric and hydraulic indicators and gauges
- transmission and drive systems
- machinery and equipment operation principles
- environmental impacts of machinery servicing and legislation covering disposal of fuels, oils and other wastes
- OHS and environmental legislation, enterprise requirements and codes of practice.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • carry out engine/equipment checks according to operator manuals and enterprise requirements • carry out lubrication and replacement of oils and filters according to operators manual • carry out transmission checks including drive and steering clutches and oil levels • check machinery and equipment components for wear and tear, and replace, tag and report defects, if necessary • dispose of replaced parts and oils according to legislation and enterprise procedures • record all details of maintenance and requirements for monitoring.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Types of machinery may include:	<ul style="list-style-type: none"> • machinery and equipment that is used on diverse agricultural, horticultural and rural enterprises. This includes: <ul style="list-style-type: none"> • heavy earthmoving equipment

RANGE STATEMENT	
	<ul style="list-style-type: none"> • tractors • vehicles and trucks • skid steer loaders • self-propelled harvesters and pickers • front end loaders • forklifts • land levellers • pumps • grain handling equipment.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
--------------------	-------------------------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCMOM304A Operate machinery and equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of maintaining and operating machinery and equipment and defines the standard required to: carry out pre-operational checks and maintenance and report defects if necessary; secure attachments according to manufacturer's directions; operate machinery in a safe and controlled manner; follow procedures to minimise environmental impacts; implement shut-down procedures and store machinery and equipment; record maintenance and operation details.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to workers in agriculture, horticulture and land management who operate machinery and equipment for the enterprise. The unit is likely to be carried out under limited supervision with checking only related to overall progress.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare machinery and equipment for use	<p>1.1. Machine and equipment is selected appropriate to job requirements and confirmed against a work plan.</p> <p>1.2. Routine pre-operational checks of machinery and equipment are carried out to manufacturer's specifications and enterprise requirements.</p> <p>1.3. Equipment is securely attached and calibrated for operation to manufacturer's specifications.</p> <p>1.4. Faulty machinery and equipment is identified, safety tagged, and reported to supervisor according to enterprise requirements.</p> <p>1.5. Occupational Health and Safety (OHS) hazards are identified, risks assessed and risk controls are implemented.</p>
2. Operate machinery and equipment	<p>2.1. Machinery and equipment is operated in a safe and controlled manner, and monitored for performance and efficiency.</p> <p>2.2. Risk to self, others and the environment are recognised and minimised according to enterprise and OHS requirements.</p> <p>2.3. Personal Protective Equipment (PPE) is selected, used and maintained according to procedures.</p> <p>2.4. Environmental implications associated with machinery operation are identified, assessed and taken into account.</p>
3. Check and complete machinery and equipment operation	<p>3.1. Machinery and equipment shut-down procedures are carried out to manufacturer's specifications and enterprise requirements.</p> <p>3.2. Machinery and equipment operational records are maintained according to enterprise requirements.</p> <p>3.3. Machinery and equipment damage, malfunctions or irregular performance are recorded and/or reported according to enterprise requirements.</p> <p>3.4. Machinery and equipment is cleaned, secured and stored according to manufacturer's specifications and enterprise requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- identify hazards and implement safe operating procedures
- complete pre-operational checks
- recognise and report defects
- operate machinery and equipment to industry standards
- demonstrate safe and environmentally responsible workplace practices
- read and interpret manufacturer's specifications, work and maintenance plans, and Material Safety Data Sheets (MSDSs)
- interpret and apply instructions, communicate with work team and supervisor, record and report equipment faults, workplace hazards, and accidents
- measure and calculate volumes, consumption and servicing requirements
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- manufacturers specifications for servicing of machinery and equipment
- operating principles and operating methods for machinery and equipment
- principles of weight distribution with regard to load shifting and machinery movement
- procedures for cleaning, securing and storing machinery, equipment and materials
- potential risks and hazards associated with the operation of machinery and equipment
- use of hazardous substances
- environmental impacts and minimisation measures associated with the operation of machinery and equipment
- OHS and environmental legislation, regulations and Codes of Practice
- relevant State/Territory legislation, regulations and Codes of Practice with regard to licensing, roads and traffic requirements.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • carry out pre-operational checks and maintenance and report defects if necessary • secure attachments according to manufacturer's directions • operate machinery in a safe and controlled manner • follow procedures to minimise environmental impacts • implement shut-down procedures and store machinery and equipment • record maintenance and operation details • evidence records must include details of the machinery and equipment that the candidate was assessed on.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Machinery and equipment may include:	<ul style="list-style-type: none"> • hydraulic equipment • stationary engines • spraying equipment • mulching and chipping equipment

RANGE STATEMENT	
	<ul style="list-style-type: none"> powered trailers and three point linkage equipment excludes chainsaws, tractors, vehicles and earth moving equipment.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
--------------------	-------------------------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCMOM305A Operate specialised machinery and equipment

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the operation of specialised machinery and equipment and defines the standard required to: prepare and operate the machinery in accordance with manufacturer's specifications; operate the machinery in a safe, efficient and controlled manner; conduct pre and post operational checks; perform minor maintenance and fault finding; record work activities.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to workers in agriculture, horticulture and land management who operate specialised machinery and equipment for the enterprise. A high level of individual responsibility is involved, depending on the level and nature of risk involved and the project. This unit does not cover machinery and equipment described elsewhere in the AHC10 standards at the AQF 3 level.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Select and prepare specialised machinery and equipment for use	<p>1.1. Specialised machinery and equipment is selected and prepared to job requirements and confirmed against work plan.</p> <p>1.2. Routine pre-operational checks of specialised machinery and equipment are completed to manufacturer's specifications and enterprise requirements.</p> <p>1.3. Occupational Health and Safety (OHS) hazards are identified, risks assessed and risk controls are implemented.</p>
2. Operate specialised machinery and equipment	<p>2.1. Machinery and equipment is operated in a safe and controlled manner and monitored for performance and efficiency.</p> <p>2.2. Risks to self, others and the environment are anticipated and minimisation strategies implemented accordingly.</p> <p>2.3. Personal Protective Equipment (PPE) is selected, used and maintained according to procedures.</p> <p>2.4. Environmental implications associated with machinery operation are identified, assessed and reported to the supervisor.</p>
3. Complete and report on specialised machinery and equipment operation	<p>3.1. Shut-down procedures for specialised machinery and equipment are completed to manufacturer's specifications and enterprise requirements.</p> <p>3.2. Specialised machinery and equipment operational records are completed and maintained according to enterprise requirements.</p> <p>3.3. Malfunctions, faults, irregular performance and damage to specialised machinery and equipment are detailed and reported according to enterprise requirements.</p> <p>3.4. Specialised machinery and equipment is cleaned, secured and stored according to OHS and enterprise requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

REQUIRED SKILLS AND KNOWLEDGE

Required skills

- identify hazards and implement safe work procedures
- select the appropriate machinery and equipment for the work plan
- determine and check operating methods with management
- carry out pre-operational checks on machinery
- examine faults or breakdowns and specify repairs
- use machinery or equipment in a safe and controlled manner to perform specific tasks by utilising the various components, controls and features
- maintain and monitor performance and maintenance records
- use environmentally responsible practices for operation of machinery and equipment, and to dispose of used oils and machinery parts
- use literacy skills to read, interpret and follow organisational policies and procedures, follow sequenced written instructions, record accurately and legible information collected and select and apply procedures for a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- manufacturer's requirements and/or workplace requirements for:
- pre-operational checks
- machinery operation techniques
- operator level servicing
- shutdown
- emergency procedures
- basic diagnostic techniques
- equipment characteristics, technical capabilities and limitations
- components and controls features and functions
- OHS and environmental legislation, Codes of Practice and enterprise requirements
- licensing requirements for machinery.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • prepare and operate the machinery in accordance with manufacturer specifications • operate the machinery in a safe, efficient and controlled manner • conduct pre and post operational checks • perform minor maintenance and fault finding • record work activities • Evidence records must include a description of the machinery and equipment that the candidate was assessed on.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Machinery and equipment may include:	<ul style="list-style-type: none"> • feed mixers • specialised turf equipment • specialised nursery equipment • livestock feeding systems • filtering and pumping equipment • poultry performance monitoring equipment • fertilising application

RANGE STATEMENT	
	• grain handling equipment.

Unit Sector(s)

Unit sector	Machinery operation and maintenance
--------------------	-------------------------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHPCPM301A Implement a plant nutrition program

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of implementing a plant nutrition program in the horticultural or agricultural industry and defines the standard required to: recognise a range of common causes of nutrient deficiency; prepare fertilizers and other products for application to plants; apply fertilizers and other products; clean up and maintain tools and equipment; record work activities according to enterprise guidelines.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the process of monitoring and controlling the nutritional requirements of and applications to plants in the horticulture industries across a range of situations and environments including amenity and natural resource areas. This standard involves working under limited supervision from others, with checking only related to overall progress. Work is undertaken within a program, routines, methods and procedures where some discretion and judgement is required in the selection of equipment and materials, organisation of work, services, actions, and the achievement of outcomes within time and budgetary constraints.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for implementation of the plant nutrition program	1.1.Goals, target site, soils and plant species and varieties are identified. 1.2.Materials for soil and plant treatments are identified and the storage site or supplier details located. 1.3.Services are located using site plans and in consultation with the supervisor. 1.4.Occupational Health and Safety (OHS) hazards are identified, risks assessed, controls implemented. 1.5.Suitable Personal Protective Equipment (PPE) is selected, used and maintained.
2. Monitor soil pH	2.1.Soil pH in the implementation site is monitored in relation to plant nutrition. 2.2.Products useful in changing soil pH are identified, compared, selected and sourced. 2.3.Product application methods are assessed according to product type and type of growing media.
3. Determine nutritional problems in plants	3.1.Common nutrient deficiency and toxicity problems in plants are identified using visual inspection. 3.2.The supervisor and/or horticulturist are consulted, as required, to determine causes of nutritional or toxicity problems. 3.3.Soil ameliorants to improve soil fertility are identified, compared, selected and sourced.
4. Prepare to use fertilisers	4.1.The fertiliser to be used is selected according to plant species and type of growing media. 4.2.Fertiliser application methods are assessed according to fertiliser type, soils, enterprise work procedures, and in due consideration of the environmental implications. 4.3.Fertilisers are applied according to the plant growing cycle and the enterprise fertiliser calendar.
5. Prepare application equipment	5.1.Tools, equipment and machinery are selected according to enterprise work procedures. 5.2.Pre-operational and safety checks are carried out on tools, equipment and machinery according to manufacturers specifications and documented work procedures. 5.3.Tools, equipment and machinery are calibrated and adjusted according to manufacturer's guidelines.
6. Apply specific products at	6.1.Specific products are selected based on their analysis to meet plant needs according to enterprise

ELEMENT	PERFORMANCE CRITERIA
appropriate rates	<p>work procedures.</p> <p>6.2. Product application rates are calculated to optimise plant benefit and minimise environmental impact according to manufacturer's specifications and enterprise work procedures.</p> <p>6.3. Specific products are applied at the correct rate, timing and method according to the product type and analysis, manufacturers specifications, enterprise work procedures, and in due consideration of the environmental implications.</p> <p>6.4. Product applications are recorded according to enterprise work procedures.</p> <p>6.5. Target plant response to the plant nutrition program, as well as any non-target effects such as environmental impact or pest responses are monitored, documented and reported to the supervisor.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communicate with work team members, supervisors, contractors and suppliers
- interpret manufacturers and plant nutrition program specifications
- utilise proforma reporting, analysis and work procedure documents
- understand labels and symbols
- estimate treatment and product requirements, material sizes and quantities
- interpret specifications, and calculate areas, ratios, proportions and application rates
- conduct a site hazard identification and risk control assessment
- coordinate own activities with the requirements and schedules of the work group and contractors
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- botany and plant physiology

REQUIRED SKILLS AND KNOWLEDGE

- the relationship between soil characteristics and the availability of nutrients
- nutrient cycling and its practical relevance to the specific plants and soils
- methods of nutrient uptake by plants
- nutrients required by plants grown within the enterprise and
- the affects of nutrient deficiency and toxicity on individual plant species and varieties
- soil ameliorants commonly required to treat the soil problems experienced by the enterprise
- the main simple and compound fertiliser products available to the enterprise including analysis, solubility, salt index, application rates and costs
- the environmental implications for the external environment of soil ameliorant and fertiliser use.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • conduct a site hazard identification and risk control assessment • recognise a range of common causes of nutrient deficiency • prepare fertilizers and other products for application to plants • apply fertilizers and other products • clean up and maintain tools and equipment • record work activities according to enterprise guidelines.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Plants may include:	<ul style="list-style-type: none"> • all plant species and cultivars.
Fertilisers may include:	<ul style="list-style-type: none"> • products and materials to meet the nutritional requirements of plants, to modify soil pH and soil ameliorants to improve soil fertility.
Fertiliser application methods may include:	<ul style="list-style-type: none"> • banding • broadcasting

RANGE STATEMENT	
	<ul style="list-style-type: none"> • ripping • spraying and fertigation applied directly to the soil or to the plant via foliar sprays.

Unit Sector(s)

Unit sector	Plants
--------------------	--------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCPGD301A Implement a plant establishment program

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the installation and consolidation of planted areas as part of a horticultural, agricultural or land management tree and shrub planting program and defines the standard required to: determine plant establishment methods and requirements from plans, clients quotations or instructions; interpret planting plans and specifications for a planting project; inspect quality of supplied plants and take appropriate action; conduct a site hazard identification and risk control assessment; undertake planting work, review the work and take remedial action where required.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to the establishment of planting areas in new projects and in programs of extensive replacement and renovation works across a range of situations and environments including amenity and natural resource areas. It excludes sports turf or recreational turf surfaces, intensive plant production and revegetation areas.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to establish a planted area	<p>1.1. The planting site, planting methods and plant species and cultivars are identified according to the site plan.</p> <p>1.2. Materials, tools, equipment and machinery are selected according to planted area design requirements.</p> <p>1.3. Pre-operational and safety checks are carried out on tools, equipment and machinery according to manufacturers' specifications.</p> <p>1.4. Site hazards are identified, risks assessed and risk controls implemented.</p> <p>1.5. Suitable safety and Personal Protective Equipment (PPE) is selected, used, maintained and stored.</p> <p>1.6. A clean and safe work area is maintained throughout and on completion of work.</p>
2. Prepare the planting area	<p>2.1. Layout of services is recognised, depths checked against the site plan, and discrepancies are reported to the supervisor and the relevant authority.</p> <p>2.2. Earthworks are undertaken according to documented work procedures.</p> <p>2.3. Additives are selected and applied, as required, according to site conditions.</p> <p>2.4. The planting site is watered, where required, according to the planting method and enterprise work procedures.</p> <p>2.5. Positions of plants are marked out on site according to the plant establishment program.</p> <p>2.6. Debris and pollutants are removed from the site and disposed of in an environmentally aware and safe manner.</p>
3. Undertake planting operation	<p>3.1. All plants are inspected for health, vigour and well established root systems prior to being planted.</p> <p>3.2. Plants with major defects are returned to the supplier or set aside to be returned.</p> <p>3.3. Plants with minor defects are trimmed or treated to maintain health and vigour.</p> <p>3.4. Plants are planted with appropriate spacings as detailed in the plant establishment program.</p> <p>3.5. Planting methods comply with the growing requirements of individual plant species and cultivars.</p> <p>3.6. Newly installed plants are provided with</p>

ELEMENT	PERFORMANCE CRITERIA
	post-planting care. 3.7. Pruning is undertaken, where necessary, according to the needs of the species and cultivar to ensure plants develop a sound framework for their growth and habit.
4. Review the plant establishment works	4.1. The plant establishment program is reviewed according to enterprise work procedures. 4.2. Plants incorrectly planted, or situations that will prevent plants from reaching their full potential are identified, recorded and reported. 4.3. Remedial action is undertaken to ensure all requirements of the plant establishment program are implemented.
5. Complete establishment works	5.1. Earthworks and surface finishes are completed to plan specifications. 5.2. Waste material is removed from the planting site. 5.3. Work outcomes are recorded and reported to the client or appropriate supervisor.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- inspect plant quality
- determine plant health
- interpret site plans and plant establishment specifications
- measure quantities, calculate material requirements, area, volume, ratios and application rates
- record and report work outcomes
- use oral communication skills/language competence to fulfil the job role as specified by the organisation, including questioning techniques, active listening, clarifying information and consulting with supervisors as required
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

- the objectives of the plant establishment program, including finished plant forms, site appearance, end use and time constraints
- the physiology of required plant species and cultivars, culture and planting procedures including growth rates, main nutrient and water requirements, deficiency symptoms, recommended treatments and associated environmental implications
- the identification of pests and diseases, plant symptoms of infections, treatment threshold levels, recommended treatments, methods of application and environmental implications
- soils and soil amelioration techniques
- Occupational Health and Safety (OHS) legislative requirements and codes of practice, OHS procedures, OHS employee and employer responsibilities, and hazard identification, assessment and control.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • determine plant establishment methods and requirements from plans, clients quotations or instructions • interpret planting plans and specifications for a planting project • inspect quality of supplied plants and take appropriate action • conduct a site hazard identification and risk control assessment • undertake planting work, review the work and take remedial action where required.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Species and cultivars may include:	<ul style="list-style-type: none"> • exotic, native, endemic, evergreen, deciduous, conifer and palm trees and shrubs, ground cover plants, bedding displays, and aquatic plants.
Planting methods may include:	<ul style="list-style-type: none"> • tube planting • hand or machine assisted planting of seedlings

RANGE STATEMENT	
	<ul style="list-style-type: none"> planting of divisions, and transplanting.
Planting sites may include	<ul style="list-style-type: none"> large-scale or broadacre woodlots parks and gardens landscaped areas and recreational reserves.

Unit Sector(s)

Unit sector	Parks and gardens
--------------------	-------------------

Co-requisite units

Co-requisite units	

Competency field

Competency field	
-------------------------	--

AHCPTH401A Assess olive oil for style and quality

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers assessing olive oil for style and quality and defines the standard required to: identify olive oil styles; identify common olive oil defects; modify horticultural and/or processing practices to remedy variations from desired style and quality.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to olive growers or managers assessing oil produced from an olive crop.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Establish and implement appropriate tasting protocols	1.1. Appropriate tasting conditions are established. 1.2. Accepted industry tasting procedures are applied. 1.3. Oils are tasted in the order that will best show character of each oil.
2. Determine style and sensory quality of the olive oil	2.1. Characteristics of the olive oil are identified and assessed. 2.2. Style of oil is assessed by tasting. 2.3. Sensory quality of oil is assessed by smelling and tasting. 2.4. Observed defects are analysed and recorded for future action.
3. Determine the analytical quality of the olive oil	3.1. Samples of oils are sent to laboratory for testing of key chemical indices. 3.2. Analytical quality of oil is assessed by interpreting key chemical indices. 3.3. Observed chemical indices that are beyond the normal range are recorded for future action.
4. Identify factors influencing the style and quality of the olive oil	4.1. Horticultural factors that may influence style and quality of the olive oil are identified. 4.2. Processing factors that may influence style and quality of the olive oil are identified. 4.3. Other factors that may influence style and quality of the olive oil are identified.
5. Implement findings of tastings and chemical analyses	5.1. Records of season's tastings and chemical analyses are maintained according to enterprise procedures. 5.2. Horticultural and processing activities and methods are evaluated in terms of modifications and improvements to be made for next season. 5.3. Horticultural production plan for next season is adjusted, documented and communicated to horticultural personnel according to enterprise procedures. 5.4. Processing requirements for next season are documented and communicated to processing personnel according to enterprise procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- general tasting skills, including ability to detect and describe aromas and flavours, and to distinguish between bitterness and pungency in oils
- use literacy skills to read, interpret and follow organisational policies and procedures, develop sequenced written instructions, record accurately and legibly information collected and select and apply procedures to a range of tasks
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification, negotiating solutions and responding to a range of views
- use numeracy skills to estimate, calculate and record routine and more complex workplace measures and data
- use interpersonal skills to work with others and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- cause of olive oil defects and how they can be remedied
- horticultural and processing practices that affect olive oil style, and reasons for the effect
- relationship between critical chemical parameters and oil style and quality.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • identify olive oil styles • identify common olive oil defects • modify horticultural and/or processing practices to remedy variations from desired style and quality.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Assessment techniques may include:	<ul style="list-style-type: none"> • a range of techniques growers use to assess olive oil in terms of style and quality.
Accepted industry tasting procedures may include:	<ul style="list-style-type: none"> • COI/T.20/Doc. no. 13 General Methodology for the Organoleptic Assessment of Virgin Olive Oil; and methods and standards adopted by the International Olive Oil Council for the sensory analysis of olive oil.

Unit Sector(s)

Unit sector	Production horticulture
--------------------	-------------------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCSOL201A Determine basic properties of soil and/or growing media

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of determining the basic properties of soil or soil-less growing media and defines the standard required to: undertake basic soil/media analysis descriptive tests for soil texture, salinity and pH; use basic proprietary soil testing equipment for testing pH and salinity; determine basic soil structure with a view to using soil structure ameliorants.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to determining basic properties of soil/growing media and is usually conducted within established routines, methods and procedures.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Collect soil/media samples for testing	1.1. Tools and materials for collecting soil/media samples are prepared. 1.2. Area from which soil/media samples are to be collected is identified from workplace records or supervisors instructions. 1.3. Services are located using site plans and in consultation with the supervisor. 1.4. Occupational Health and Safety (OHS) hazards are identified, risks assessed and controls implemented and reported to the supervisor. 1.5. Suitable safety equipment and Personal Protective Equipment (PPE) are selected, used and maintained. 1.6. Samples are taken randomly from the designated area according to recognised sampling techniques and are prepared for on site or off site analysis 1.7. Samples are labelled and recorded according to organisational procedures.
2. Perform basic soil/media test	2.1. Soil profile is determined, where appropriate. 2.2. Soils/media are tested or inspected for physical properties. 2.3. Soils/media is tested for chemical properties. 2.4. Results are recorded according to organisational procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- collect soil/media samples
- perform basic soil/media tests
- interpret results from own or laboratory results
- record and store information
- use literacy skills to follow sequenced written instructions and record information accurately and legibly
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for

REQUIRED SKILLS AND KNOWLEDGE

clarification and seeking advice from supervisor

- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required knowledge

- soil sampling techniques
- soil/media physical properties
- soil/media chemical properties
- soil/media plant relationships
- basic soil/media field tests
- interpreting laboratory results
- techniques to ameliorate soil properties.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • undertake basic soil/media analysis descriptive tests for soil texture, salinity and pH • use basic proprietary soil testing equipment for testing pH and salinity • determine basic soil structure with a view to using soil structure ameliorants.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Soils may include:	<ul style="list-style-type: none"> • all types of soils and growing media used for commercial production.

Unit Sector(s)

Unit sector	Soils and media
--------------------	-----------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCSOL401A Sample soils and interpret results

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers sampling of soils and interpreting of soil test results and defines the standard required to: collect soil/media samples using appropriate sampling methodology; prepare soil/media samples for dispatch to soil analysis laboratory; receive and interpret analytic results; file and record analytic results for future use; implement a nutrient/nutrition program.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to those whose job role includes undertaking soil or growing media sampling and interpreting the results as a foundation for further horticultural operations such as nutrition programs and irrigation scheduling.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for soil sampling	<p>1.1. The soils to be surveyed, surveying activity and contractors are identified according to site plans and enterprise work procedures.</p> <p>1.2. Tools, equipment and machinery are selected according to site conditions, testing agency requirements and enterprise work procedures.</p> <p>1.3. If required, pre-operational and safety checks are carried out on tools, equipment and machinery according to manufacturers specifications and enterprise work procedures.</p> <p>1.4. Areas of homogeneous soil types are identified for sampling.</p> <p>1.5. Services are located using site plans and in consultation with the supervisor.</p> <p>1.6. Occupational Health and Safety (OHS) hazards are identified, risks assessed, controls implemented and reported to the supervisor.</p> <p>1.7. Suitable safety equipment and Personal Protective Equipment (PPE) are selected, used and maintained.</p> <p>1.8. A clean and safe work area is maintained throughout and on completion of work.</p>
2. Determine soil characteristics by performing soil sampling	<p>2.1. The density and depth for a representative sampling of the area are determined according to enterprise work procedures.</p> <p>2.2. Holes are excavated at identified sampling sites according to enterprise work procedures, OHS requirements and with due consideration of the environmental implications.</p> <p>2.3. Samples for off-site testing are collected and prepared, packaged, accurately labelled and dispatched according to testing agency requirements and enterprise work procedures.</p> <p>2.4. The physical and chemical characteristics of the soil are determined according to investigative requirements and best practice guidelines.</p> <p>2.5. Sampling and testing tools and equipment are cleaned of all residues and returned to storage according to manufacturer's specifications and enterprise work procedures.</p> <p>2.6. Results are recorded in an established format according to enterprise work procedures.</p>
3. Interpret results of	3.1. The soil types of the sample area are classified

ELEMENT	PERFORMANCE CRITERIA
soil analysis	<p>according to standards for soil classification.</p> <p>3.2. The acceptable soil physical and chemical parameters for a specified plant are determined from published data and historical records.</p> <p>3.3. Collected analytical results are compared with acceptable physical and chemical parameters for a specified plant.</p> <p>3.4. Soil characteristics are evaluated to determine whether they can be altered to meet plant needs.</p> <p>3.5. The Readily Available Water (RAW) values for irrigation sites are determined according to industry standards and enterprise work procedures.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communicate with work team members, supervisors and contractors, interpret and apply soil surveying specifications, utilise proforma reporting, analysis and work procedure documents, and understand soil surveying data
- measure distance, depth and spacing, calculate area, volume and RAW values, calibrate tools and equipment, and interpret analytical results
- coordinate own activities with the requirements and schedules of contractors and other work teams to sequentially and effectively complete surveying activities in a timely and cost effective manner
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification, negotiating solutions and responding to a range of views
- use numeracy skills to estimate, calculate and record routine and more complex workplace measures and data
- use interpersonal skills to work with others and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- practical understanding of the range of sample collection, testing and analytical methods that may be used to perform soil surveys, and the association of surveying methods with site conditions, environmental implications and intended

REQUIRED SKILLS AND KNOWLEDGE

horticultural use of the surveyed site

- the physical and chemical properties of soils in relation to their ability to support specified horticultural production
- the capacity of soils to provide water to plants
- the importance of organic matter in soil in relation to the intended horticultural use
- awareness of ameliorants and soil improvement techniques for addressing site limitations identified through surveying
- awareness of the comparative environmental implications associated with soil surveying activities and the application of analytical results.

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment**Critical aspects for assessment and evidence required to demonstrate competency in this unit**

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:

- collect soil/media samples using appropriate sampling methodology
- prepare soil/media samples for dispatch to soil analysis laboratory
- receive and interpret analytic results
- file and record analytic results for future use
- implement a nutrient/nutrition program.

Context of and specific resources for assessment

Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Soils may include:	<ul style="list-style-type: none"> all soil types used for horticultural and agricultural production.
Soil tests may include:	<ul style="list-style-type: none"> a range of chemical analyses structure and texture analysis soil biology analysis.

Unit Sector(s)

Unit sector	Soils and media
--------------------	-----------------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCWRK305A Coordinate work site activities

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of coordinating work site activities for small-scale projects and defines the standard required to: prepare and plan worksite activities; identify and allocate resources required; schedule activities and allocate tasks and responsibilities; use communication and team supervision strategies; monitor activities and record costs and production levels; convey issues and suggested improvements to management.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to workers in agricultural, horticultural and land management industries that are responsible for small small-scale projects. It is likely to be under limited supervision with checking only related to overall progress.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work site activities	<p>1.1. Requirements of the work are clarified with supervisor of the project.</p> <p>1.2. Personnel, equipment and material resource requirements are identified according to the scope of the project and supervisors instructions.</p> <p>1.3. The order of activities and time allocation is identified, documented and presented to the supervisor for verification.</p> <p>1.4. The environmental implications of the proposed work site activities are identified and the likely outcomes assessed and reported to the supervisor.</p> <p>1.5. Occupational Health and Safety (OHS) hazards are identified, risks assessed and risk controls are implemented.</p> <p>1.6. Personal Protective Equipment (PPE) is selected, used, maintained and stored according to the type of work site activities to be undertaken.</p>
2. Organise resources	<p>2.1. Materials are purchased and equipment/machinery is hired as authorised by the supervisor and according to enterprise guidelines.</p> <p>2.2. External agency permits are gained in the correct order as necessary.</p> <p>2.3. Neighbours and affected parties are notified of works to be undertaken as necessary.</p> <p>2.4. Delivery of materials and equipment/machinery to site is organised according to documented order of activities.</p> <p>2.5. Personnel are organised to be on site when they are required.</p>
3. Coordinate and report on activities	<p>3.1. All resources are coordinated and timed to suit the scope of the project and order of activities.</p> <p>3.2. Personnel are directed in activities for each period of work.</p> <p>3.3. Personnel, activities, timelines and resource usage are monitored and documented according to enterprise guidelines.</p> <p>3.4. Contingency situations are recognised and reported to the supervisor, and corrective actions taken according to enterprise guidelines.</p> <p>3.5. A simple project report is written to inform management of work site activities undertaken and completed.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- read and interpret documentation associated with work site activities
- calculate material and resource requirements
- coordinate a team to achieve optimum performance
- communicate with personnel at all levels
- document results clearly and concisely
- perform an OHS risk assessment
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- environmental awareness associated with undertaking project works to ensure the impact on the environment is minimal
- work schedule programming
- hiring and subcontracting of labour
- possible causes of disruption to work activities and their effect on quality and time schedules
- responsibilities and requirements for obtaining external agency permits as necessary
- the range, use and availability of materials, equipment and machinery that may be required for the project
- OHS issues, legislative requirements and Codes of Practice.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • prepare and plan worksite activities • identify and allocate resources required • schedule activities and allocate tasks and responsibilities • use communication and team supervision strategies • monitor activities and record costs and production levels • convey issues and suggested improvements to management.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Work site activities may include:	<ul style="list-style-type: none"> • all materials, equipment and personnel used for small-scale projects.

Unit Sector(s)

Unit sector	Work
--------------------	------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

AHCWRK308A Handle bulk materials in storage area

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of receiving, moving and sampling bulk materials in a storage area and defines the standard required to: check equipment and storage facilities and identify current or impending faults; test bulk materials for moisture, contamination and quality; conduct silo readings; identify bulk materials pests and damage; handle and manoeuvre equipment; record bulk materials stocks and movements.
------------------------	--

Application of the Unit

Application of the unit	This unit is likely to be carried out under limited supervision. It includes the use of safety equipment and procedures, and the repair of the facility and equipment used to store the bulk materials. Bulk materials are handled to industry standards in relation to segregation and storage conditions ensuring minimum loss or damage and optimum returns. Overall progress may be checked periodically. The handling of bulk materials in storage areas will usually follow set routines, methods and procedures. Some discretion and judgement is required in the selection of equipment and materials, organisation of work, and services. The outcomes should be achieved within specified timelines.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to work in bulk materials storage area	<p>1.1. Work undertaken is interpreted from the work program where necessary, and confirmed with the management.</p> <p>1.2. Occupational Health and Safety (OHS) hazards are identified, risks assessed and suitable controls implemented.</p> <p>1.3. Suitable personal protective clothing and equipment is selected, used and maintained.</p> <p>1.4. Tools and equipment suitable for the work to be undertaken are selected, checked, and maintained if necessary.</p> <p>1.5. Environmental implications of undertaking work in the bulk materials storage area are identified, likely outcomes assessed and if necessary responsible action taken.</p>
2. Sample bulk materials for testing	<p>2.1. Representative samples of bulk materials are taken for testing in line with the requirements of the bulk materials storage program.</p> <p>2.2. Sampling is undertaken safely, following the prescribed guidelines for the activity.</p> <p>2.3. Representative bulk materials samples are prepared for dispatch, accurately and clearly labelled, and packaged according to the guidelines of the organisation and the analysing body.</p> <p>2.4. Samples are dispatched to the analysing body, according to the requirements of the bulk materials storage program.</p>
3. Move bulk materials into and out of storage	<p>3.1. Bulk materials for handling and storage are correctly identified from the written or verbal instructions.</p> <p>3.2. Bulk materials are segregated according to type, variety and quality characteristics according to the requirements of the organisation as stated in the bulk materials storage program.</p> <p>3.3. Measures are taken to minimise insect and weed infestation and contamination during the movement of the bulk materials.</p> <p>3.4. Bulk materials are regularly checked for insect infestation and contamination during movement according to enterprise requirements.</p> <p>3.5. Any storage and handling equipment that is used is thoroughly cleaned after emptying, and dismantled if necessary, according to the procedures of the</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>organisation and the nature of the equipment.</p> <p>3.6. Bulk materials are moved into and out of storage according to the procedures of the organisation, and following the prescribed OHS procedures.</p> <p>3.7. Silo types and handling equipment are selected for each bulk material type in relation to their storage characteristics and flow properties and according to the requirements of the bulk materials storage program.</p> <p>3.8. Suitable measures are implemented to minimise the affect of desiccant dusts on the flow properties of bulk materials.</p> <p>3.9. Records are clearly and accurately updated and stored as and when required by the bulk materials storage program.</p>
4. Repair and maintain storage facility	<p>4.1. The need for repairs to the facility is identified through observation or instruction.</p> <p>4.2. Maintenance and repairs are conducted according to the requirements of the organisation and following the prescribed OHS procedures and taking into account environmental considerations.</p> <p>4.3. Completed maintenance records and other appropriate information are documented in accordance with enterprise requirements.</p> <p>4.4. Workshop and work areas are cleaned and maintained to OHS and enterprise requirements.</p> <p>4.5. Maintenance and repairs, damage, malfunctions or irregular performance in machinery, tools and equipment are reported in line with organisational requirements.</p> <p>4.6. Tools and equipment are cleaned, secured and stored in line with OHS and organisational requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

REQUIRED SKILLS AND KNOWLEDGE

- record bulk materials stocks and movements
- conduct silo readings
- identify bulk materials pests and damage
- use communication systems
- sample and conduct a simple analysis of bulk materials
- check equipment and storage facilities and identify current or impending faults
- handle and manoeuvre equipment
- test bulk materials for moisture, contamination and quality
- complete pre-operational checks on basic tools and equipment
- perform routine safety, service and maintenance procedures on tools, equipment and machinery
- operate hand and independently powered tools and cleaning equipment to industry standards
- clean, secure and store machinery and equipment
- perform basic trouble shooting
- recognise and rectify minor operational faults
- handle hazardous substances (fuels) safely
- read and interpret manufacturers specifications, work and maintenance plans, and Material Safety Data Sheets (MSDSs)
- interpret and apply task instructions, communicate with work team and supervisor, and record and report faults, workplace hazards and accidents
- measure and calculate volumes, consumption and lubrication requirements
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- the client's sampling and classification requirements
- bulk materials types and characteristics
- common bulk materials pests and problems
- appropriate legislative requirements, manufacturers instructions and enterprise procedures/instructions
- appropriate action in contingency situations
- silo operations and configuration, machinery and operating practices
- organisation requirements for protective equipment and safe practices in relation to OHS
- organisation and industry guidelines for segregation of bulk materials quality assurance principles
- pre-operational and safety checks, servicing and maintenance procedures for tools and equipment
- potential hazards associated with the operation of basic tools and equipment
- general machine maintenance procedures

REQUIRED SKILLS AND KNOWLEDGE

- machinery operating principles and operating methods
- machinery storage and protection methods
- relevant State/Territory legislation, regulations and codes of practice with regard to workplace OHS, and the use and control of machinery and equipment
- environmental impacts associated with the operation of machinery and equipment
- personal protective clothing and equipment and when and how it should be used
- cleaning and storage of machinery, equipment and materials
- enterprise recording and reporting procedures.

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:</p> <ul style="list-style-type: none"> • check equipment and storage facilities and identify current or impending faults • test bulk materials for moisture, contamination and quality • conduct silo readings • identify bulk materials pests and damage • handle and manoeuvre equipment • record bulk materials stocks and movements.
Context of and specific resources for assessment	Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole.	
Handling may include:	<ul style="list-style-type: none"> • bulk materials from any crop harvested in the organization (e.g., cereals, legumes, pulse crops, oilseeds and pasture seeds) • animal feed or fertilisers • safety equipment and procedures • the repair of the facility and equipment used to store the bulk materials.

Unit Sector(s)

Unit sector	Work
-------------	------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
------------------	--

BSBCOM502B Evaluate and review compliance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to evaluate and review an organisation's compliance program/management system and how it is fulfilling its obligations and responsibilities under applicable compliance requirements. This unit has been designed to be consistent with AS 3806:2006 Compliance programs.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to managers with responsibility for evaluating and reporting on the operation and effectiveness of an organisation's planned compliance program/management system to ensure that compliance is an integral part of normal business operations. It also applies to individuals working as an owner-manager (where it would be part of their broad role), as a senior manager in a small organisation, as an external consultant or as a section or frontline manager in an operational unit within the organisation. In addition, it applies to members of a compliance management team or a frontline manager within a larger organisation.</p> <p>Application of this unit must be consistent with the pertinent sections of relevant Australian and international standards and legislative requirements including: AS 3806:2006 Compliance programs, AS ISO 10002:2006 Customer satisfaction - Guidelines for complaints handling in organizations, AS/NZS 4360:2004 Risk management and AS ISO 15489:2004 Records management.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop the evaluation plan	1.1. Obtain details of the organisation's compliance policies, objectives and assessment criteria 1.2. Obtain and interpret information on current compliance requirements applicable to the organisation 1.3. Develop a suitable evaluation methodology to enable sufficiently valid and reliable outcomes for the required research and suitable arrangements for both internal and external monitoring processes 1.4. Prepare the evaluation plan for the proposed project including the detailing of established evaluation criteria and the data to be collected 1.5. Obtain approval of plan from relevant internal and/or external personnel
2. Gather required evaluation data	2.1. Collect relevant evaluation data on how the organisation is fulfilling its compliance requirements using appropriate techniques and sources in accordance with the agreed evaluation plan 2.2. Organise, interpret and review collected data against established evaluation criteria including those specified in relevant Australian and international standards 2.3. Discuss ambiguities, uncertainties and problems experienced while interpreting collected data and address appropriately in conjunction with relevant internal and/or external personnel 2.4. Organise interpreted evaluation data for later analysis
3. Analyse the collected data	3.1. Analyse evaluation data in accordance with planned methodology 3.2. Review and discuss outcomes and findings of the analysis with relevant internal and/or external personnel
4. Determine evaluation findings and outcomes	4.1. Develop and discuss preliminary findings and any identified issues with relevant internal and/or external personnel 4.2. Undertake any additional data collection and analysis required to clarify aspects of findings, issues and related action options if necessary 4.3. Prepare recommendations for any action to improve

ELEMENT	PERFORMANCE CRITERIA
	identified deficiencies in conjunction with relevant internal and/or external personnel
5. Document and disseminate the outcomes and recommendations of the evaluation	<p>5.1. Prepare a draft report of the outcomes, findings and recommendations of the compliance evaluation in accordance with the agreed structure and format and distribute to relevant internal and/or external personnel for comment and feedback</p> <p>5.2. Edit the report based on the feedback obtained</p> <p>5.3. Proofread the report in preparation for publishing</p> <p>5.4. Ensure the report of outcomes, findings and recommendations of the evaluation is signed off by <i>authorised personnel</i></p> <p>5.5. Produce and disseminate the report to nominated internal and external personnel in accordance with agreed arrangements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- interpersonal skills to contribute to a positive culture of compliance within an organisation
- investigative skills to evaluate and review compliance
- project management skills to:
 - develop project plans
 - manage other personnel involved in the evaluation activity
 - meet project timelines
 - manage project finances
- interpersonal skills to relate to internal and external personnel and in particular those representing relevant regulatory authorities, professional institutes and organisations, standards organisations
- research and evaluation skills to:
 - conduct literature searches and internet searches
 - analyse and organise evaluation data using appropriate techniques
 - conduct various types of evaluation surveys
 - conduct quantitative data analysis using appropriate techniques
- technical skills to use communications technology effectively.

Required knowledge

- evaluation methods and techniques suitable for compliance related evaluation and review
- sources of data relevant to compliance related evaluation and review
- relevant Australian and international standards including but not limited to:
 - AS 3806:2006 Compliance programs
 - AS ISO 10002:2006 Customer satisfaction - Guidelines for complaints handling in organizations
 - AS ISO 15489:2004 Records management
 - AS/NZS 4360:2004 Risk management quantitative and qualitative data analysis techniques relevant to compliance related evaluation
- elements of compliance program/management systems including:
 - documentation of compliance requirements relevant to the organisation
 - compliance management functions, accountabilities and responsibilities within the organisation
 - compliance related management information systems
 - record keeping systems required for compliance management

REQUIRED SKILLS AND KNOWLEDGE

- liaison procedures with relevant internal and external personnel on compliance related matters
- breach management policies and processes including the identification, classification, investigation, rectification and reporting of breaches in compliance requirements
- compliance reporting procedures
- corporate induction and training processes related to compliance management
- processes for the internal and external promulgation and promotion of information on compliance requirements and compliance program/management system
- compliance complaints handling systems
- continuous improvement processes for compliance including monitoring, evaluation and review
- strategies for developing a positive compliance culture within the organisation
- techniques and performance indicators for monitoring the operation of a compliance program/management system
- reporting processes on compliance management including reports on breaches and rectification action
- relevant organisational policies and procedures including:
 - compliance plans and policies in various compliance areas
 - organisational standards for operations and ethics.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • completion of project work which comprehensively evaluates how an organisation is fulfilling its compliance requirements • knowledge of evaluation methods and techniques suitable for compliance related evaluation and review.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant published material and such as: <ul style="list-style-type: none"> • organisational policies, standard operating procedures, procedures and plans • relevant legislation, regulations, licensing requirements, codes of practice, standards • compliance evaluation reports • access to the relevant internal and external data files • access to appropriate computer resources for online searching, data processing and analysis, and report preparation and editing.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • observations of activities undertaken to evaluate compliance requirements • assessment of reports evaluating the performance and effectiveness of existing compliance systems and processes • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observations of interactions with internal and external stakeholders while evaluating compliance requirements • oral or written questioning to assess knowledge of the effectiveness of compliance systems and processes

EVIDENCE GUIDE	
	and their impact on organisational objectives, processes and systems <ul style="list-style-type: none">• review of evaluation plan• assessment of dissemination of the report.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: <ul style="list-style-type: none">• other compliance units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Compliance requirements may include:

- different types of external and internal compliance requirements including:
 - accreditation requirements of an institute, professional organisation or registration body
 - internal policies, procedures, standards or codes of practice of an organisation
 - regulations of a state/territory, national or international regulatory authority
 - requirements for certification under statutory licensing systems
 - statutory standards or codes of practice
- cross-industry, industry-specific and internal organisational compliance requirements in such areas as (examples in alphabetical groupings):
 - anti-discrimination (including discrimination by race, sex, disability, religion, etc.), alcohol licensing (licensing regulations covering clubs, pubs, licensed premises, etc.), aviation
 - bankruptcy
 - chemical use, child protection, construction, conveyancing/real estate, copyright, corporate governance, customs, credit
 - education, electricity, environmental protection, equal opportunity
 - financial services (including banking), fire, food hygiene, freedom of information, freight forwarding
 - gambling, gene technology
 - health, human rights
 - insurance, immigration, intellectual property
 - land management

RANGE STATEMENT	
	<ul style="list-style-type: none"> • maritime, mining • pharmaceuticals, patents, privacy • quarantine • racing, rail transport, road transport • safety (including cross-industry generic regulations as well as industry, equipment or product-specific sub-categories e.g. marine safety, rail safety, food safety, aviation safety, road safety, dangerous goods, construction safety, mine safety, road safety, etc.), security, sewage, superannuation • taxation, telecommunications, tobacco, trade practices and consumer protection • water supply, workers compensation, workers rehabilitation
<i>Evaluation methodology</i> may include:	<ul style="list-style-type: none"> • analysis of complaints recorded involving compliance requirements • analysis of feedback from clients, suppliers, internal managers and personnel • assessment of information contained in the organisation's management information system • collection of operational data • desk analysis • drafting and editing of the evaluation report • literature searches including internet searches • review of reports from relevant compliance authorities and organisations • surveys of relevant internal and external personnel including interviews, focus groups, questionnaires
<i>Evaluation plan</i> may include:	<ul style="list-style-type: none"> • details of the applicable compliance requirement and related evaluation criteria • evaluation methodology • milestones • personnel required including evaluation project manager, the evaluation team and those who may be consulted during the course of the evaluation activities • resource requirements and related costs • timelines

RANGE STATEMENT	
<i>Evaluation data</i> may include:	<ul style="list-style-type: none"> • completed survey questionnaires • documentation on feedback and complaints involving compliance requirements • operational data pertinent to the fulfillment of compliance requirements • published documents including papers, standards, regulations • quantitative data collected from various sources • records of interviews, meetings or focus group workshop outcomes • records of telephone conversations • written correspondence including letters, faxes, emails
<i>Relevant Australian and international standards</i> may include:	<ul style="list-style-type: none"> • AS 3806:2006 Compliance programs • AS ISO 10002:2006 Customer satisfaction - Guidelines for complaints handling in organizations • AS ISO 15489:2004 Records management • AS/NZS 4360:2004 Risk management
<i>Relevant internal personnel</i> may include:	<ul style="list-style-type: none"> • board of directors • chief executive officer • compliance management team (where relevant) • compliance specialists at the operational level • frontline managers • senior management team
<i>Relevant external personnel</i> may include:	<ul style="list-style-type: none"> • chief executive officers and managers in organisations with an interest in the compliance issues being researched • legal and business advisors and consultants with expertise and interest in compliance requirements and related management systems • representatives of professional associations and institutes relevant to the organisation's operations and sphere of business • representatives of relevant authorities in pertinent compliance areas
<i>Authorised personnel</i> may include:	<ul style="list-style-type: none"> • chief executive officer or manager in an organisation • evaluation project manager • evaluation steering committee (where applicable) • nominated representative of educational

RANGE STATEMENT

	institution/s or organisation/s <ul style="list-style-type: none"> • nominated representative of professional association/s or institute/s • nominated representative of regulatory authority
--	---

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Regulation, Licensing and Risk - Compliance
-------------------------	---

Co-requisite units

Co-requisite units		

BSBCOM503B Develop processes for the management of breaches in compliance requirements

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop and monitor the processes for managing identified breaches in the fulfilment of compliance requirements within an organisation. This unit has been designed to be consistent with AS 3806:2006 Compliance programs.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to individuals working as a chief executive or manager in a small organisation (where it would be part of their broad role), or as a compliance officer or senior manager within a larger organisation with responsibility for identifying, classifying, investigating, rectifying and reporting breaches in compliance requirements.</p> <p>Application of this unit must be consistent with the pertinent sections of relevant Australian and international standards and legislative requirements including: AS 3806:2006 Compliance programs, AS ISO 10002:2006 Customer satisfaction - Guidelines for complaints handling in organizations, AS/NZS 4360:2004 Risk management and AS ISO 15489:2004 Records management.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Develop procedures for responding to breaches in internal and external compliance requirements</p>	<p>1.1. Obtain and interpret information on current compliance requirements applicable to the organisation</p> <p>1.2. Review each area of compliance requirement to establish potential breaches</p> <p>1.3. Develop and document appropriate procedures for identifying, classifying, investigating, rectifying and reporting breaches in compliance requirements</p>
<p>2. Monitor adherence to compliance requirements</p>	<p>2.1. Monitor and evaluate organisation operations to identify incidences of breaches in compliance requirements</p> <p>2.2. Review and evaluate complaints and other sources of information on potential breaches in compliance requirements</p> <p>2.3. Interrogate compliance management information system to identify any indication of breaches in compliance requirements</p>
<p>3. Manage the identification and rectification of breaches in compliance</p>	<p>3.1. Assign appropriate staff to take the required action to identify, classify, investigate and rectify breaches in compliance requirements</p> <p>3.2. Ensure senior management team within the organisation is informed of all breaches in compliance requirements</p>
<p>4. Liaise with relevant personnel and organisations during breach management</p>	<p>4.1. Maintain liaison with relevant regulatory authorities and other organisations with an interest in compliance in regard to breaches in requirements and related action being taken</p> <p>4.2. Take advice from relevant internal and external personnel on the management of breaches in compliance requirements and act upon this advice appropriately</p>
<p>5. Evaluate the response to and rectification of, breaches in compliance</p>	<p>5.1. Monitor action taken to manage and rectify an identified breach in compliance requirements in terms of the organisation's compliance policy</p> <p>5.2. Confirm success in rectification of compliance breaches and notify relevant internal and external personnel</p> <p>5.3. Recognise problems in the rectification of compliance breaches and initiate appropriate action to ensure that management of the breach is</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>maintained</p> <p>5.4. Refer reports of systemic and recurring problems of non-compliance to those with sufficient authority to correct them</p>
<p>6. Document and disseminate the breach management activities and outcomes</p>	<p>6.1. Document and report identified breaches in compliance requirements in accordance with relevant internal and external requirements</p> <p>6.2. Maintain and store records of breaches in compliance requirements</p> <p>6.3. Report on the action taken to rectify identified breaches in compliance requirements and the outcomes of this action</p> <p>6.4. Disseminate reports on breach management to relevant internal and external personnel</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- interpersonal skills to contribute to a positive culture of compliance within an organisation
- investigative skills to gather information on how breaches in compliance requirements occurred
- organisational skills to develop and monitor processes to manage breaches in compliance requirements, including:
 - determining compliance requirements applicable to the organisation
 - sourcing information on breach management systems suitable for the organisation
 - developing a breach management system and related procedures
 - managing other personnel dealing with identified breaches in compliance requirements
 - documenting breach management procedures
 - applying investigative skills to the level required
- communication and interpersonal skills to relate to internal and external personnel and in particular those representing relevant regulatory authorities, professional institutes and organisations, standards organisations, etc.
- technical skills to use communications technology effectively.

Required knowledge

- analysis techniques relevant to the review and interpretation of an identified breach in compliance requirements
- compliance requirements applicable to the organisation
- elements of compliance program/management system including:
 - documentation of compliance requirements relevant to the organisation
 - specification of compliance management functions, accountabilities and responsibilities within the organisation
 - compliance related management information systems
 - record keeping systems required for compliance management
 - liaison procedures with relevant internal and external personnel on compliance related matters
 - breach management policies and processes including the identification, classification, investigation, rectification and reporting of breaches in compliance requirements
 - compliance reporting procedures
 - corporate induction and training processes related to compliance management

REQUIRED SKILLS AND KNOWLEDGE

- processes for the internal and external promulgation and promotion of information on compliance requirements and compliance program/management system
- compliance complaints handling systems
- continuous improvement processes for compliance including monitoring, evaluation and review
- strategies for developing a positive compliance culture within the organisation
- techniques and performance indicators for monitoring the operation of a compliance/program management system
- internal and external personnel with an interest in compliance
- organisational responsibilities for compliance
- planning processes of the organisation
- potential breaches in compliance requirements
- relevant organisational policies and procedures including:
 - procedures for breaches in compliance requirements
 - compliance plans and policies in various compliance areas
 - organisational standards for operations and ethics
- reporting processes on compliance management including reports on breaches and rectification action
- sections of relevant Australian and international standards dealing with aspects of breach management processes and responsibilities including but not limited to:
 - AS 3806:2006 Compliance programs
 - AS ISO 10002:2006 Customer satisfaction - Guidelines for complaints handling in organizations
 - AS ISO 15489:2004 Records management
 - AS/NZS 4360:2004 Risk management quantitative and qualitative data analysis techniques relevant to compliance related evaluation.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of processes for managing organisational compliance breaches • knowledge of compliance requirements applicable to the organisation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant information on compliance requirements such as: <ul style="list-style-type: none"> • organisational policies, standard operating procedures, procedures and plans • relevant legislation, regulations, licensing requirements, codes of practice, standards • access to the relevant internal and external data files • access to relevant internal and external personnel • access to appropriate computer resources needed for managing the identification and rectification of breaches in compliance requirements.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • observations of activities undertaken to manage breaches in compliance requirements • assessment of reports identifying breaches in compliance • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observations of interactions with internal and external stakeholders while managing breaches in compliance requirements • oral or written questioning to assess knowledge of the effectiveness of actions taken to manage compliance breaches • review of authenticated compliance breach

EVIDENCE GUIDE	
	<p>documents or computer files from the workplace or training environment</p> <ul style="list-style-type: none">• assessment or written reports detailing action to be taken to overcome compliance breaches and to prevent their reoccurrence in the future• review and evaluation of complaints regarding potential breaches in compliance requirements.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none">• other compliance units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Compliance requirements may include:

- different types of external and internal compliance requirements including:
 - accreditation requirements of an institute, professional organisation or registration body
 - internal policies, procedures, standards or codes of practice of an organisation
 - regulations of a state/territory, national or international regulatory authority
 - requirements for certification under statutory licensing systems
 - statutory standards or codes of practice
- cross-industry, industry-specific and internal organisational compliance requirements in such areas as (examples in alphabetical groupings):
 - anti-discrimination (including discrimination by race, sex, disability, religion, etc.), alcohol licensing (licensing regulations covering clubs, pubs, licensed premises, etc.), aviation
 - bankruptcy
 - chemical use, child protection, construction, conveyancing/real estate, copyright, corporate governance, customs, credit
 - education, electricity, environmental protection, equal opportunity
 - financial services (including banking), fire, food hygiene, freedom of information, freight forwarding
 - gambling, gene technology
 - health, human rights
 - insurance, immigration, intellectual property
 - land management

RANGE STATEMENT	
	<ul style="list-style-type: none"> • pharmaceuticals, patents, privacy • quarantine • racing, rail transport, road transport • safety (including cross-industry generic regulations as well as industry, equipment or product-specific sub-categories e.g. marine safety, rail safety, food safety, aviation safety, road safety, dangerous goods, construction safety, mine safety, road safety, etc.), security, sewage, superannuation • taxation, telecommunications, tobacco, trade practices and consumer protection • water supply, workers compensation, workers rehabilitation
<p><i>Sources of information on potential breaches in compliance requirements</i> may include:</p>	<ul style="list-style-type: none"> • external reviews of organisation operations • feedback from clients, suppliers • feedback from organisation managers and operations personnel • internal audit reports • reports from regulatory authorities and other organisations with an interest in compliance
<p><i>Relevant regulatory authorities and other organisations with an interest in compliance</i> may include:</p>	<ul style="list-style-type: none"> • educational institutions and organisations • government departments • internal audit managers within the organisation • professional associations and institutes • regulatory authorities
<p><i>Relevant internal and external personnel</i> may include:</p>	<ul style="list-style-type: none"> • board of directors • chief executive officer • chief executives and managers in organisations with an interest in the compliance issues being researched • compliance management team (where relevant) • compliance specialists at the operational level • frontline managers • legal and business advisors and consultants with expertise and interest in compliance requirements and related management systems • representatives of professional associations and institutes relevant to the organisation's operations and sphere of business • representatives of relevant authorities in

RANGE STATEMENT	
	<ul style="list-style-type: none">pertinent compliance areassenior management team

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Regulation, Licensing and Risk - Compliance
-------------------------	---

Co-requisite units

Co-requisite units		

BSBCUS201B Deliver a service to customers

Modification History

Release	Comments
Release 1	<p>This version first released with <i>BSB07 Business Training Package version 6.0</i>.</p> <p>Revised unit. Required skills updated to focus on learning and development practices and compliance with policy and procedures.</p> <p>Replaces BSBCUS201A Deliver a service to customers</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to deliver all aspects of customer service at an introductory level. It includes creating a relationship with customers, identifying their needs, delivering services or products and processing customer feedback.

Application of the Unit

This unit applies to individuals who perform a range of routine tasks in the workplace using a limited range of practical skills and fundamental knowledge of customer service in a defined context under direct supervision or with limited individual responsibility.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Establish contact with customers	<p>1.1 Acknowledge and greet <i>customer</i> in a professional, courteous and concise manner according to <i>organisational requirements</i></p> <p>1.2 Maintain personal dress and presentation in line with organisational requirements</p> <p>1.3 Communicate using appropriate <i>interpersonal skills</i> to facilitate accurate and relevant exchange of information</p> <p>1.4 Maintain sensitivity to customer specific needs and any cultural, family and individual differences</p> <p>1.5 Establish rapport/relationship with customer and express a genuine interest in customer needs/requirements</p>
2. Identify customer needs	<p>2.1 Use appropriate questioning and active listening to determine customer needs</p> <p>2.2 Assess customer needs for urgency to identify priorities for service delivery</p> <p>2.3 Provide customer with information about available options for meeting customer needs and assist customer to identify preferred option/s</p> <p>2.4 Identify personal limitations in addressing customer needs and seek assistance from <i>designated persons</i> where required</p>
3. Deliver service to customers	<p>3.1 Provide prompt customer service to meet identified needs according to organisational requirements</p> <p>3.2 Provide information regarding problems and delays, and follow-up within appropriate timeframes as necessary</p> <p>3.3 Communicate with customers in a clear, concise and courteous manner</p> <p>3.4 Identify <i>opportunities</i> to enhance the quality of service and products, and take action to improve the service whenever possible</p>
4. Process customer feedback	<p>4.1 Promptly recognise <i>customer feedback</i> and handle sensitively according to organisational requirements</p> <p>4.2 Accurately record any feedback and communication between customers and the organisation according to organisational standards, policies and procedures</p> <p>4.3 Identify any unmet customer needs and discuss suitability of other products/services</p> <p>4.4 Support customers to make contact with other services according to organisational policies and procedures</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to convey meaning clearly, concisely and coherently
- literacy skills to communicate with customers and to develop required product knowledge
- numeracy skills to interpret customer requirements and to meet customer needs
- problem-solving skills to deal with customer enquiries or complaints
- self-management skills to:
 - comply with policies and procedures
 - seek learning and development opportunities.

Required knowledge

- key provisions of relevant legislation from all forms of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - occupational health and safety (OHS)
- organisational policies and procedures relating to customer service and the customer service process.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • demonstrating all stages of customer service interactions • responding to customer feedback • demonstrating a range of interpersonal skills • knowledge of relevant legislation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • examples of customer complaints and policies relating to customer service.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • analysis of responses to case studies and scenarios • demonstration of techniques • observation of presentations • oral or written questioning to assess knowledge of customer service and communication techniques • review of information provided to customers about problems and delays, and customer follow-up • review of documentation recording feedback and communication between customers and the organisation.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Customers</i> may include:	<ul style="list-style-type: none"> • contacts from other organisations • external customers • internal customers • members of the public • patients • service users.
<i>Organisational requirements</i> may include:	<ul style="list-style-type: none"> • access and equity principles and practice • anti-discrimination and related policy • following OHS procedures for dealing with customers • legal and organisational policies, guidelines and requirements • quality and continuous improvement processes and standards • quality assurance and/or procedures manual.
<i>Interpersonal skills</i> may include:	<ul style="list-style-type: none"> • listening actively to what the customer is communicating • providing an opportunity for the customer to confirm their request • questioning to clarify and confirm customer needs • seeking feedback from the customer to confirm understanding of needs • summarising and paraphrasing to check understanding of customer's message • using appropriate body language.
<i>Designated persons</i> may include:	<ul style="list-style-type: none"> • manager, supervisor or team leader • more experienced personnel with specific knowledge or information • staff from other work areas with particular product or service knowledge.
<i>Opportunities</i> may include:	<ul style="list-style-type: none"> • advice about warranties, guarantees or support services • packaging options • pricing options • procedures for delivery of goods or service • provision of product knowledge • systems for recording complaints.

<i>Customer feedback</i> may be about:	<ul style="list-style-type: none">• damaged goods or delivery problems• delays• invoicing errors• quality of customer service• quality of service provision.
--	--

Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBCUS301B Deliver and monitor a service to customers

Modification History

Release	Comments
Release 1	<p>This version first released with <i>BSB07 Business Training Package version 6.0</i></p> <p>Revised unit. Performance criteria amended so that the learner is not required to 'incorporate evidence of customer satisfaction in decision to modify products or services'. Required skills updated to focus on learning and development practices and compliance with policy and procedures.</p> <p>Replaces BSBCUS301A Deliver and monitor a service to customers</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to identify customer needs and monitor service provided to customers. Operators may exercise discretion and judgement using appropriate theoretical knowledge of customer service to provide technical advice and support to customers over either a short or long term interaction.

Application of the Unit

This unit applies to individuals who are skilled operators and apply a broad range of competencies in various work contexts.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Identify customer needs	<p>1.1 Use <i>appropriate interpersonal skills</i> to accurately identify and clarify <i>customer needs and expectations</i></p> <p>1.2 Assess customer needs for urgency to determine priorities for service delivery according to <i>organisational requirements</i></p> <p>1.3 Use <i>effective communication</i> to inform customers about available choices for meeting their needs and assist in the selection of preferred options</p> <p>1.4 Identify limitations in addressing customer needs and seek appropriate assistance from <i>designated individuals</i></p>
2. Deliver a service to customers	<p>2.1 Provide prompt service to customers to meet identified needs in accordance with organisational requirements</p> <p>2.2 Establish and maintain appropriate rapport with customers to ensure completion of quality service delivery</p> <p>2.3 Sensitively and courteously handle <i>customer complaints</i> in accordance with organisational requirements</p> <p>2.4 Provide assistance or respond to customers with <i>specific needs</i> according to organisational requirements</p> <p>2.5 Identify and use available <i>opportunities</i> to promote and enhance services and products to customers</p>
3. Monitor and report on service delivery	<p>3.1 Regularly review customer satisfaction with service delivery using <i>verifiable evidence</i> according to organisational requirements</p> <p>3.2 Identify opportunities to enhance the quality of service and products, and pursue within organisational requirements</p> <p>3.3 Monitor procedural aspects of service delivery for effectiveness and suitability to customer requirements</p> <p>3.4 Regularly seek customer feedback and use to improve the provision of products and services</p> <p>3.5 Ensure reports are clear, detailed and contain recommendations focused on critical aspects of service delivery</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify trends and positions of products and services
- communication skills to monitor and advise on customer service strategies
- literacy skills to:
 - edit and proofread texts to ensure clarity of meaning and accuracy of grammar and punctuation
 - prepare general information and papers according to target audience
 - read and understand a variety of texts
- problem-solving skills to deal with customer enquiries or complaints
- technology skills to select and use technology appropriate to a task
- self-management skills to:
 - comply with policies and procedures
 - consistently evaluate and monitor own performance
 - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - financial legislation
 - occupational health and safety (OHS)
- organisational policy and procedures for customer service including handling customer complaints
- service standards and best practice models
- public relations and product promotion
- techniques for dealing with customers, including customers with specific needs.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • identifying needs and priorities of customers • distinguishing between different levels of customer satisfaction • treating customers with courtesy and respect • responding to and reporting on, customer feedback • knowledge of organisational policy and procedures for customer service.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • examples of customer complaints • examples of documents relating to customer service standards and policies.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of reports on customer service delivery • analysis of responses to case studies and scenarios • demonstration of techniques • oral or written questioning to assess knowledge of customer service strategies.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Appropriate interpersonal skills</i> may include:</p>	<ul style="list-style-type: none"> • listening actively to what the customer is communicating • providing an opportunity for the customer to confirm their request • questioning to clarify and confirm customer needs • seeking feedback from the customer to confirm understanding of needs • summarising and paraphrasing to check understanding of customer message • using appropriate body language.
<p><i>Customers</i> may include:</p>	<ul style="list-style-type: none"> • corporate customers • individual members of the organisation • individual members of the public • internal or external • other agencies.
<p><i>Customer needs and expectations</i> may include:</p>	<ul style="list-style-type: none"> • accuracy of information • advice or general information • complaints • fairness/politeness • further information • making an appointment • prices/value • purchasing organisation's products and services • returning organisation's products and services • specific information.
<p><i>Organisational requirements</i> may include:</p>	<ul style="list-style-type: none"> • access and equity principles and practice • anti-discrimination and related policy • defined resource parameters • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • payment and delivery options • pricing and discount policies • quality and continuous improvement processes and

	<p>standards</p> <ul style="list-style-type: none"> • quality assurance and/or procedures manuals • replacement and refund policy and procedures • who is responsible for products or services.
Effective communication may include:	<ul style="list-style-type: none"> • giving customers full attention • maintaining eye contact, except where eye contact may be culturally inappropriate • speaking clearly and concisely • using active listening techniques • using appropriate language and tone of voice • using clear written information/communication • using non-verbal communication e.g. body language, personal presentation (for face-to-face interactions) • using open and/or closed questions.
Designated individuals may include:	<ul style="list-style-type: none"> • colleagues • customers • line management • supervisor.
Customer complaints may include:	<ul style="list-style-type: none"> • administrative errors such as incorrect invoices or prices • customer satisfaction with service quality • damaged goods or goods not delivered • delivery errors • product not delivered on time • service errors • warehouse or store room errors such as incorrect product delivered.
Specific needs of customers may relate to:	<ul style="list-style-type: none"> • age • beliefs/values • culture • disability • gender • language • religious/spiritual observances.
Opportunities to promote and enhance services and products may include:	<ul style="list-style-type: none"> • extending time lines • packaging procedures • procedures for delivery of goods • returns policy • system for recording complaints • updating customer service charter.
Verifiable evidence may include:	<ul style="list-style-type: none"> • customer satisfaction questionnaires • audit documentation and reports

	<ul style="list-style-type: none">• quality assurance data• returned goods• lapsed customers• service calls• complaints.
--	--

Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBCUS401B Coordinate implementation of customer service strategies

Modification History

Release	Comments
Release 1	<p>This version first released with <i>BSB07 Business Training Package version 6.0</i>.</p> <p>Revised unit. Performance criteria amended so that the learner is not required to 'incorporate evidence of customer satisfaction in decision to modify products or services'. Required skills updated to focus on learning and development practices and compliance with policy and procedures.</p> <p>Replaces BSBCUS401A Coordinate implementation of customer service strategies</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to advise on, carry out and evaluate customer service strategies, including the design of improvement strategies based on feedback. Operators may have responsibility to provide guidance or to delegate aspects of these tasks to others.

Application of the Unit

This unit applies to individuals with a broad knowledge of customer service strategies who contribute well developed skills in addressing customer needs and problems.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Advise on customer service needs	<p>1.1 Clarify and accurately assess <i>customer needs</i> using appropriate <i>communication techniques</i></p> <p>1.2 Diagnose problems matching service delivery to <i>customers</i> and develop options for improved service within <i>organisational requirements</i></p> <p>1.3 Provide relevant and constructive advice to promote the improvement of customer service delivery</p> <p>1.4 Use <i>business technology</i> and/or <i>online services</i> to structure and present information on customer service needs</p>
2. Support implementation of customer service strategies	<p>2.1 Ensure customer service strategies and opportunities are promoted to <i>designated individuals and groups</i></p> <p>2.2 Identify and allocate available budget resources to fulfil customer service objectives</p> <p>2.3 Promptly action <i>procedures to resolve customer difficulties</i> and <i>complaints</i> within organisational requirements</p> <p>2.4 Ensure that decisions to implement <i>strategies</i> are taken in consultation with designated individuals and groups</p>
3. Evaluate and report on customer service	<p>3.1 Review client satisfaction with service delivery using verifiable data in accordance with organisational requirements</p> <p>3.2 Identify and report changes necessary to maintain service standards to designated individuals and groups</p> <p>3.3 Prepare conclusions and recommendations from verifiable evidence and provide constructive advice on future directions of client service strategies</p> <p>3.4 Maintain systems, records and reporting procedures to compare changes in customer satisfaction</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to
 - communicate effectively with personnel and clients at all levels
 - articulate customer service strategies
- interpersonal skills to:
 - build relationships with customers
 - establish rapport
- literacy skills to:
 - prepare general information and papers
 - read a variety of texts
 - write formal and informal letters according to target audience
- planning skills to develop implementation schedules
- problem-solving skills to diagnose organisational problems relating to customer services
- self-management skills to:
 - comply with policies and procedures
 - consistently evaluate and monitor own performance
 - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - environmental issues
 - occupational health and safety (OHS)
- principles of customer service
- organisational business structure, products and services
- product and service standards and best practice models.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> identifying needs and priorities of the organisation in delivering services to customers responding to and reporting on customer feedback designing strategies to improve delivery of products and services knowledge of the principles of customer service.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to an actual workplace or simulated environment access to office equipment and resources examples of customer complaints, feedback and strategies.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate review of documentation reporting changes necessary to maintain service standards analysis of responses to case studies and scenarios demonstration of techniques observation of presentations oral or written questioning to assess knowledge of customer service techniques and strategies review of systems, records and reporting procedures to compare changes in customer satisfaction.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Customer needs may relate to:	<ul style="list-style-type: none"> • accuracy of information • advice or general information • complaints • fairness/politeness • further information • making an appointment • prices/value • purchasing organisation's products and services • returning organisation's products and services • specific information.
Communication techniques may include:	<ul style="list-style-type: none"> • analysing customer satisfaction surveys • analysing quality assurance data • conducting interviews • consultation methods, techniques and protocols • making recommendations • obtaining management decisions • questioning • seeking feedback to confirm understanding • summarising and paraphrasing.
Customers may include:	<ul style="list-style-type: none"> • corporate customers • individual members of the organisation • individual members of the public • internal or external • other agencies.
Organisational requirements may include:	<ul style="list-style-type: none"> • access and equity principles and practice • anti-discrimination and related policy • confidentiality and security requirements • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • payment and delivery options

	<ul style="list-style-type: none"> • pricing and discount policies • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals • replacement and refund policy and procedures • who is responsible for products or services.
<i>Business technology</i> may include:	<ul style="list-style-type: none"> • answering machine • binder • computer • fax machine • photocopier • printer • shredder • telephone.
<i>Online services</i> may include:	<ul style="list-style-type: none"> • access to product database by customers online • access to purchase, delivery and account records • contact centre • online ordering • online payments • online registration • quick/reasonable response • two-way communication online.
<i>Designated individuals and groups</i> may include:	<ul style="list-style-type: none"> • colleagues • committee • customers • external organisation • line management • supervisor.
<i>Procedures to resolve customer difficulties</i> may include:	<ul style="list-style-type: none"> • external agencies (e.g. Ombudsman) • item replacement • referrals to supervisor • refund of monies • review of products or services • using conflict management techniques.

<p><i>Customer complaints</i> may include:</p>	<ul style="list-style-type: none"> • administrative errors such as incorrect invoices or prices • customer satisfaction with service quality • damaged goods or goods not delivered • delivery errors • products not delivered on time • service errors • specific e-business problems and issues: <ul style="list-style-type: none"> • difficulty accessing services • inactive links • not appreciating differing hardware and software • services not available • supply errors such as incorrect product delivered • time taken to access services • unfriendly website design • website faults • warehouse or store room errors such as incorrect product delivered.
<p>Customer service <i>strategies</i> may include:</p>	<ul style="list-style-type: none"> • courtesy/politeness • delivery times • merchandise characteristics • price offers • product/refund guarantees • product/service availability.

Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBCUS501C Manage quality customer service

Modification History

Release	Comments
Release 1	<p>New release of this Qualification released with <i>version 6 of BSB07 Business Services Training Package</i>.</p> <p>Revised unit. Required skills updated to focus on learning and development practices and compliance with policy and procedures.</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to develop strategies to manage organisational systems that ensure products and services are delivered and maintained to standards agreed by the organisation.

Operators may have staff involved in delivering customer service and are responsible for the quality of their work. In many instances the work will occur within the organisation's policies and procedures framework. At this level, the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies, will be required.

Application of the Unit

Many managers are involved in ensuring that products and services are delivered and maintained to standards agreed by the organisation.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Plan to meet internal and external customer requirements	<p>1.1 Investigate, identify, assess, and include the needs of customers in planning processes</p> <p>1.2 Ensure plans achieve the quality, time and cost specifications agreed with customers</p>
2. Ensure delivery of quality products and services	<p>2.1 Deliver products and services to customer specifications within organisation's business plan</p> <p>2.2 Monitor team performance to consistently meet the organisation's quality and delivery standards</p> <p>2.3 Assist colleagues to overcome difficulty in meeting customer service standards</p>
3. Monitor, adjust and review customer service	<p>3.1 Develop and use strategies to monitor progress in achieving product and/or service targets and standards</p> <p>3.2 Develop and use strategies to obtain customer feedback to improve the provision of products and services</p> <p>3.3. Develop, procure and use resources effectively to provide quality products and services to customers</p> <p>3.4 Make decisions to overcome problems and to adapt customer services, products and service delivery in consultation with appropriate individuals and groups</p> <p>3.5 Manage records, reports and recommendations within the organisation's systems and processes</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify trends and positions of products and services
- communication skills to:
 - coach and mentor staff and colleagues
 - monitor and advise on customer service strategies
- literacy skills to:
 - edit and proofread texts to ensure clarity of meaning and accuracy of grammar and punctuation
 - prepare general information and papers according to target audience
 - read and understand a variety of texts
- problem-solving skills to:
 - deal with customer enquiries or complaints
 - deal with complex and non-routine difficulties
- technology skills to select and use technology appropriate to a task
- self-management skills to:
 - comply with policies and procedures
 - consistently evaluate and monitor own performance
 - seek learning opportunities.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - Australian consumer law
 - ethical principles
 - codes of practice
 - privacy laws
 - financial legislation
 - occupational health and safety (OHS)
- organisational policy and procedures for customer service including handling customer complaints
- service standards and best practice models
- public relations and product promotion
- techniques for dealing with customers, including customers with specific needs
- techniques for solving complaints including the principles and techniques involved in the management and organisation of:
 - customer behaviour
 - customer needs research
 - customer relations
 - ongoing product and/or service quality
 - problem identification and resolution

- quality customer service delivery
- record keeping and management methods
- strategies for monitoring, managing and introducing ways to improve customer service relationships
- strategies to obtain customer feedback.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • plans, policies or procedures for delivering quality customer service • demonstrated techniques in solving complex customer complaints and system problems that lead to poor customer service • knowledge of techniques for solving complaints.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • assessment of written reports • demonstration of techniques • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • evaluation of leadership, supervision, coaching and mentoring used to assist colleagues to overcome difficulty in meeting customer service standards • review of strategies developed and used to monitor progress in achieving product and/or service targets and standards • review of records, reports and recommendations about managing customer service.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Customers</i> may be:	<ul style="list-style-type: none"> • Board members • clients, purchasers of services • co-workers, peers and fellow frontline managers • members of the general public who make contact with the organisation, such as prospective purchasers of services • potential funding bodies • supervisors • suppliers of goods and services and contractors providing goods and services.
<i>Quality</i> may refer to:	<ul style="list-style-type: none"> • characteristics of a product, system, service or process that meet the requirements of customers and interested parties.
<i>Products and services</i> may include:	<ul style="list-style-type: none"> • either products or services • goods • ideas • infrastructure • private or public sets of benefits.
<i>Strategies</i> may refer to:	<ul style="list-style-type: none"> • databases and other controls to record and compare data over time • electronic feedback mechanisms using intranet, internet and email • feedback forms and other devices to enable communication from customers • long-term or short-term plans for monitoring achievement and evaluating effectiveness • policies and procedures • questionnaires, survey and interviews • training and development activities.
<i>Resources</i> may include:	<ul style="list-style-type: none"> • buildings/facilities • equipment • finance • information • people • power/energy

	<ul style="list-style-type: none">• technology• time.
--	--

Unit Sector(s)

Stakeholder Relations – Customer Service

Custom Content Section

Not applicable.

BSBFIM501A Manage budgets and financial plans

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to undertake financial management within a work team in an organisation. This includes planning and implementing financial management approaches, supporting team members whose role involves aspects of financial operations, monitoring and controlling finances, and reviewing and evaluating effectiveness of financial management processes in line with the financial objectives of the work team and the organisation.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit addresses the requirement for managers to ensure that financial resources are used effectively. This is done by ensuring access to budget/s and ongoing monitoring expenditure against the budget/s.</p> <p>The unit applies to managers working in small and large business environments and not for profit organisations.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan financial management approaches	1.1. Access <i>budget/financial plans</i> for the work team 1.2. Clarify budget/financial plans with <i>relevant personnel</i> within the organisation to ensure that documented outcomes are achievable, accurate and comprehensible 1.3. Negotiate any changes required to be made to budget/financial plans with relevant personnel within the organisation 1.4. Prepare <i>contingency plans</i> in the event that initial plans need to be varied
2. Implement financial management approaches	2.1. Disseminate relevant details of the agreed budget/financial plans to team members 2.2. Provide <i>support</i> to ensure that team members can competently perform <i>required roles</i> associated with the management of finances 2.3. Determine and access <i>resources and systems</i> to manage financial management processes within the work team
3. Monitor and control finances	3.1. Implement <i>processes</i> to monitor actual expenditure and to control costs across the work team 3.2. Monitor expenditure and costs on an agreed cyclical basis to identify cost variations and expenditure overruns 3.3. Implement, monitor and modify contingency plans as required to maintain financial objectives 3.4. <i>Report</i> on budget and expenditure in accordance with organisational protocols
4. Review and evaluate financial management processes	4.1. Collect and collate for analysis, <i>data and information on the effectiveness of financial management processes</i> within the work team 4.2. Analyse data and information on the effectiveness of financial management processes within the work team and identify, document and recommend any improvements to existing processes 4.3. Implement and monitor agreed improvements in line with financial objectives of the work team and the organisation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- numeracy skills to read and understand a budget and to update a budget
- technology skills to use software associated with financial record keeping.

Required knowledge

- basic accounting principles
- organisational requirements related to financial management
- relevant legislation and current requirements of the Australian Taxation Office, including GST
- requirements for organisational record keeping and auditing
- principles and techniques involved in:
 - budgeting
 - cash flows
 - electronic spreadsheets
 - GST
 - ledgers and financial statements
 - profit and loss statements.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> financial skills required to work with and interpret budgets, ageing summaries, cash flow, petty cash, GST, and profit and loss statements knowledge of the record keeping requirements for the ATO and for auditing purposes.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> assessment of written reports indicating broad knowledge of managing budgets and managing financial resources in the organisation demonstration of techniques using financial record keeping software direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate oral or written questioning to assess knowledge of requirements for organisational record keeping and auditing review of contingency plans review of identification of cost variations and expenditure overruns evaluation of documentation reporting on budget and expenditure review of documentation identifying and recommending improvements to financial management processes.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE

- | | |
|--|---|
| | <ul style="list-style-type: none">• other units from the Diploma of Management. |
|--|---|

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Budget/financial plans</i> may include:</p>	<ul style="list-style-type: none"> • cash flow projections • long-term budgets/plans • operational plans • short-term budgets/plans • spreadsheet-based financial projections • targets or key performance indicators for production, productivity, wastage, sales, income and expenditure
<p><i>Relevant personnel</i> may include:</p>	<ul style="list-style-type: none"> • financial managers, accountants or financial controllers • supervisors, other frontline managers
<p><i>Contingency plans</i> may include:</p>	<ul style="list-style-type: none"> • contracting out or outsourcing human resources and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials and consumables • increasing sales or production • recycling and re-using • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or consumables • succession planning
<p><i>Support</i> may include:</p>	<ul style="list-style-type: none"> • access to specialist advice • documentation of procedures • help desk or identified experts within the organisation • information briefings or sessions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • intranet-based information • training including mentoring, coaching and shadowing
Required roles may include:	<ul style="list-style-type: none"> • arranging for use of corporate credit cards • banking • debt collection • ensuring security, accuracy and currency of financial operations • invoicing clients, customers and consumers • maintaining journals, ledgers and other record keeping systems • maintaining petty cash system • purchasing and procurement • wages and salaries payments and record keeping
Resources and systems may include:	<ul style="list-style-type: none"> • hardware and software • human, physical or financial resources • record keeping systems (electronic and paper-based) • specialist advice or support
Processes to monitor actual expenditure and to control costs across the work team include:	<ul style="list-style-type: none"> • reporting of: <ul style="list-style-type: none"> • assets • consumables • equipment • expenditure • income • stock • wastage
Reporting may include data from:	<ul style="list-style-type: none"> • bank statements • credit card statements • financial reports • invoices and receipts • ledgers and journals • logs • petty cash records • spreadsheet-based records
Data and information on the effectiveness of financial management processes may include records (paper-based and	<ul style="list-style-type: none"> • bank account records • cash flow data • contracts

RANGE STATEMENT

electronic) related to:

- credit card receipts
- employee timesheets
- files of paid purchase and service invoices
- income and expenditure
- insurance reports
- invoices
- job costings
- petty cash receipts
- quotations
- taxation records
- wages/salaries books

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Management
-------------------------	--

Co-requisite units

Co-requisite units	

BSBHRM402A Recruit, select and induct staff

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to execute tasks associated with the recruitment cycle.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to individuals with a role in recruitment, selection and induction functions who work under the direction of a human resources manager.</p> <p>It is not assumed that the individuals addressed by this unit have staff who report to them, although this may be the case.</p> <p>Performance of the work described in this unit will be underpinned by in depth knowledge of the work of the organisation, and how recruitment and selection practices fit with other human resource functions.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine job descriptions	1.1. Clarify time lines and requirement for appointment 1.2. Assist with preparation of <i>job descriptions</i> which accurately reflect the role requirements in accordance with organisational procedures and <i>legislation, codes and national standards</i> and <i>occupational health and safety (OHS) considerations</i> 1.3. Consult with relevant personnel about job descriptions 1.4. Ensure that job descriptions do not contravene legislative requirements 1.5. Obtain approvals to advertise position
2. Plan for selection	2.1. <i>Advertise</i> vacancies for <i>staffing requirements</i> in accordance with organisational policies and procedures 2.2. Consult with relevant personnel to convene selection panel and to develop interview questions 2.3. Short list applicants 2.4. Ensure that interview questions do not breach legislative requirements 2.5. Schedule interviews and advise relevant personnel of times, dates and venues
3. Assess and select applicants	3.1. Participate in interview process and assess candidates against agreed selection criteria 3.2. Discuss assessment with other selection panel members 3.3. Correct any biases or deviations from agreed procedures and negotiate for preferred candidate 3.4. Contact referees for referee reports 3.5. Prepare selection report and make recommendations to senior personnel for appointment 3.6. Advise unsuccessful candidates of outcomes and respond to any queries 3.7. Complete all necessary documentation in accordance with organisational procedures 3.8. Secure agreement of preferred candidate
4. Appoint and induct successful candidate	4.1. Provide successful candidate with employment contract and other documentation 4.2. Advise managers and staff of starting date and make

ELEMENT	PERFORMANCE CRITERIA
	<p>necessary administrative arrangements for pay and employee record keeping</p> <p>4.3. Advise manager and work team of new appointment</p> <p>4.4. Arrange induction in accordance with organisational policy</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to use networks to source suitable applicants, to listen to and understand what is being said in interviews, and to advise on the outcomes of the selection process
- literacy skills to work with job descriptions to devise suitable questions for interviews, to prepare letters for unsuccessful applicants and to make job offers
- organising and scheduling skills to arrange interviews and venues.

Required knowledge

- documentation required for recruitment and selection
- human resource functions, human resource life cycle and the place of recruitment and selection in that life cycle
- principles of equity, diversity and relevant legislation.
- range of interviewing techniques and other selection processes and their application.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • demonstrated ability to work with job descriptions to source and select suitable staff • interviewing and other selection techniques that demonstrate awareness of equal opportunity and anti-discrimination requirements • knowledge of the human resource life cycle.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an appropriate range of documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of written reports on recruitment and selection • demonstration of selection techniques • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of interviewing techniques • review of advertisements for staffing vacancies • review of documentation provided to successful candidate • oral or written questioning to assess knowledge of selection processes.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Certificate IV in Human Resources.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Job descriptions</i> may include:	<ul style="list-style-type: none"> • attributes • competencies required by staff • job or person specifications • job title and purpose of position • necessary skills and knowledge • qualifications • selection criteria • tasks or duties associated with the position
<i>Legislation, codes and national standards</i> may include:	<ul style="list-style-type: none"> • award and enterprise agreements, and relevant industrial instruments • relevant industry codes of practice • relevant legislation from all levels of government that affects business operation, especially in regard to OHS and environmental issues, equal opportunity, industrial relations and anti-discrimination
<i>Occupational health and safety (OHS) considerations</i> may include:	<ul style="list-style-type: none"> • establishment and maintenance of OHS training, records, induction processes • performance against OHS legislation and organisation's OHS system, especially policies, procedures and work instructions
<i>Advertising</i> may include:	<ul style="list-style-type: none"> • electronic or print • internal or external • outsourcing
<i>Staffing requirements</i> may include:	<ul style="list-style-type: none"> • permanent, temporary, full-time, part-time or casual

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Workforce Development - Human Resource Management
-------------------------	---

Co-requisite units

Co-requisite units		

BSBINN301A Promote innovation in a team environment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to be an effective and pro active member of an innovative team.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies individuals who play a pro active role in demonstrating, encouraging or supporting innovation in a team environment. The individual may be a team participant or a team leader.</p> <p>The team may 'make itself' or be constructed by others. It may have core members and members who participate at certain times or for particular purposes. It may be permanent or temporary, or come together at different times to work on specific projects.</p> <p>The team could consist of a team of contractors/freelancers, permanent staff, clients and service providers, or any combination of these groups. It may operate within an organisation or across several organisations - or simply across a group of individuals.</p> <p>The key focus of the unit is on what makes for an innovative team, what keeps it working well, how the structure of work can make a difference and what skills and knowledge are needed to maximise opportunities for innovation. Where a greater focus on team leadership is required this unit should be combined with units such as BSBLED401A Develop teams and individuals.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Create opportunities to maximise innovation within the team	1.1. Evaluate and reflect on <i>what the team needs and wants to achieve</i> 1.2. Check out <i>information about current or potential team members' work</i> in the context of developing a more innovative team 1.3. Bring people into the team or make suggestions for team members based on what needs to be achieved and the potential for cross-fertilising ideas 1.4. Acknowledge, respect and discuss the <i>different ways that different people may contribute</i> to building or enhancing the team
2. Organise and agree effective ways of working	2.1. Jointly establish <i>ground rules</i> for how the team will operate 2.2. Agree and communicate responsibilities in ways that encourage and reinforce <i>team-based innovation</i> 2.3. Agree and share tasks and activities to ensure the best use of skills and abilities within the team 2.4. Plan and schedule activities to allow time for thinking, challenging and collaboration 2.5. Establish personal reward and stimulation as an integral part of the team's way of working
3. Support and guide colleagues	3.1. Model <i>behaviour that supports innovation</i> 3.2. Seek <i>external stimuli and ideas</i> to feed into team activities 3.3. Pro-actively share information, knowledge and experiences with other team members 3.4. Challenge and test ideas within the team in a positive and collaborative way 3.5. Pro-actively discuss and explore ideas with other team members on an ongoing basis
4. Reflect on how the team is working	4.1. De-brief and reflect on activities and on opportunities for improvement and innovation 4.2. Gather and use feedback from within and outside the team to generate discussion and debate 4.3. Discuss the <i>challenges of being innovative</i> in a constructive and open way 4.4. Take ideas for improvement, build them into future activities and communicate key issues to relevant colleagues 4.5. Identify, promote and celebrate successes and

ELEMENT	PERFORMANCE CRITERIA
	examples of successful innovation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to work collaboratively as part of a team, to provide guidance and support to others, and to participate in open and constructive discussions
- creative thinking skills to generate, explore, test and challenge ideas
- learning skills to stretch boundaries of own knowledge and skills
- literacy skills to analyse a wide range of information from varied sources
- planning and organisational skills to participate in the effective allocation of work in a team context
- problem-solving skills to work constructively to overcome issues and challenges of both a practical and conceptual nature and to make ideas become realities
- self-management skills to take a pro-active team role and to reflect on own performance in modelling and encouraging behaviour that supports innovation.

Required knowledge

- barriers to innovation that can occur within a team and broader barriers that sometimes hinder innovation
- broad concepts of innovation including what innovation is, different types of innovation and the benefits of innovation
- characteristics of teams that are more likely to be innovative and characteristics of broader environments that support and encourage innovation
- different roles that people may play within a team, how this impacts on the way a team works and what it might achieve
- group dynamics in a team.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • active participation in a team where the team takes a pro-active and considered approach to innovation and innovative practice • collaborative and open communication within the team • knowledge and understanding of the internal and external factors that contribute to a team becoming and remaining innovative.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • demonstration of skills as part of a team.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • direct observation of team interactions • evaluation of reports by the candidate or the team (could be oral or written) discussing the ideas, challenges and opportunities associated with teams, and how they can be more innovative • evaluation of feedback from other people in the team about the candidate's communication approaches and abilities • oral or written questioning to assess knowledge of the characteristics of innovative teams, innovation concepts more broadly and the ways in which innovation can be encouraged • review of jointly established 'groundrules' for how the team will operate.
Guidance information for assessment	Innovation does not occur in isolation. Holistic assessment with other units relevant to the industry sector, workplace and job role is highly recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>What the team needs and wants to achieve</i> may relate to:</p>	<ul style="list-style-type: none"> • addressing particular customer feedback • conceiving and implementing a particular project • developing new services or products • generating ongoing ideas within the work unit • improving budgetary performance • improving or changing work conditions • new ideas that impact beyond the workplace (e.g. that have a broader social or community impact)
<p><i>Information about current or potential team members' work</i> may relate to:</p>	<ul style="list-style-type: none"> • interests • lifestyle preferences • past jobs • technical strengths • work preferences • working styles
<p><i>Different ways that different people may contribute</i> may relate to individual strengths around:</p>	<ul style="list-style-type: none"> • creating positive energy within the team • fundamental literacy strengths (e.g. particularly strong in visual literacy, written or spoken communication) • generating ideas • networks or spheres of influence • particular ways of thinking • powers of persuasion • problem-solving capacities • specific technical skills or knowledge
<p><i>Ground rules</i> may relate to:</p>	<ul style="list-style-type: none"> • boundaries or lack of boundaries for team activities and ideas • confidentiality • copyright, moral rights or intellectual property • regularity of communication • key roles and responsibilities • time lines

RANGE STATEMENT	
	<ul style="list-style-type: none"> ways of communicating
<i>Team-based innovation</i> may be encouraged through:	<ul style="list-style-type: none"> accessing training and learning opportunities enough but not too much guidance and structure equitable sharing of workload follow-through with ideas supportive communication
<i>Behaviour that supports innovation</i> may include being:	<ul style="list-style-type: none"> collaborative equitable fair fun hardworking reflective responsible sympathetic
<i>External stimuli and ideas</i> might be from:	<ul style="list-style-type: none"> Australia or overseas colleagues outside of the team family and friends internet journals networks or technical experts other organisations
<i>Challenges of being innovative</i> may relate to:	<ul style="list-style-type: none"> budgetary or other resource constraints competing priorities organisational culture problems with breaking old patterns of behaviour or thinking time pressures

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Creativity and Innovation - Innovation
-------------------------	--

Co-requisite units

Co-requisite units		

BSBINT303B Organise the importing and exporting of goods

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to provide general assistance to senior staff in organising the importing and exporting of goods.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to individuals who work under the supervision of a more experienced colleague in various international work contexts. They may exercise discretion and judgement using appropriate knowledge of requirements for importing and exporting goods. Work may be for an external client or for the organisation in which the individual is employed.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Follow organisational systems and processes for organising the importation and exportation of goods	1.1. Detail goods to be imported or exported according to <i>characteristics</i> 1.2. Identify and access <i>regulations and permits</i> relating to international movement of specific goods with assistance of manager, supervisor or more senior personnel 1.3. Research and document required <i>processes</i> to import or export specific goods as assigned by and under direction of manager, supervisor or more senior personnel 1.4. Seek assistance as required to research import or export requirements
2. Contribute to cost calculations	2.1. Discuss and record components of <i>costs</i> of importing or exporting specific goods with supervisor or manager 2.2. Make a <i>determination of components of costs</i> 2.3. Seek assistance as required in assigned tasks related to calculating costs for international movement of goods 2.4. Document costs for international movement of goods in accordance with workplace procedures 2.5. Check cost calculation for accuracy and completeness prior to forwarding to supervisor or manager 2.6. Finalise and recheck any revisions to calculations by self and supervisor or manager
3. Assist in completing required documentation	3.1. Complete and collate required documentation for international movement of goods 3.2. Seek assistance as required in completing and checking documentation 3.3. Check required documents and forward for further checking by supervisor or manager 3.4. Finalise documents and submit or lodge with <i>relevant parties</i> 3.5. Identify and file copies of required documents in accordance with workplace procedures
4. Communicate with carriers	4.1. Identify customs licensed places and transportation <i>services</i> to be used in the international movement of goods with assistance of supervisor, manager or more senior personnel

ELEMENT	PERFORMANCE CRITERIA
	<p>4.2. Ensure <i>communication</i> facilitates arrangements to move goods within required time lines</p> <p>4.3. Identify <i>problems</i> and take actions as required to facilitate resolution</p> <p>4.4. Follow through arrangements for transportation of goods including arrangements with overseas representatives of carriers to finalisation, including arrival of goods at intended destination and settlement effected to complete the contract</p> <p>4.5. Seek assistance as required in communicating with carriers</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- literacy skills to read and create documentations relation to the import and export of goods
- numeracy skills to perform cost calculations
- communication skills to resolve disputes or problems with carriers.

Required knowledge

- identification and overview knowledge of key provisions of relevant legislation from all levels of government that affects business operations, codes of practice and national standards, such as:
 - Customs Act
 - Dangerous Goods Act
 - International Commercial Terms (INCOTERMS)
 - trade modernisation legislation: Customs Legislation Amendment and Repeal Act, Import Processing Charges Act, Customs Depot Licensing Charges Amendment Act
 - Trade Practices Act
 - Warsaw Convention
 - World Trade Organization determinations
- significant trade routes and modes of transport
- international and Australian regulatory bodies and their roles and responsibilities
- organisational policies and procedures relating to business operations in an international trade context
- penalties for incorrect customs declarations.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • providing assistance in the process of both importing and exporting goods • contributing to cost calculations • providing assistance in completing documentation and communicating with carriers • knowledge of legislation, codes of practice and national standards relevant to the work role.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • access to examples of importing and exporting requirements such as permit forms, and license documents.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of documents outlining required processes to import or export specific goods; documents outlining costs for international movement of goods • analysis of responses to case studies and scenarios • demonstration of techniques • oral or written questioning to assess knowledge of importing and exporting requirements • assessment of written reports identifying problems and actions taken to facilitate resolution.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p>

EVIDENCE GUIDE

- | | |
|--|---|
| | <ul style="list-style-type: none">• other international business units. |
|--|---|

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Characteristics may include:

- country of origin or destination
- dangerous goods
- description of goods
- prohibited or restricted goods
- temperature controlled cargo
- volume to be imported or exported

Regulations and permits may include:

- those issued by the Australian Government:
 - Department of Agriculture, Fisheries and Forestry
 - Department of Defence
 - Department of the Environment and Heritage
 - Department of Foreign Affairs and Trade
 - Department of Health and Ageing
 - Department of Industry, Tourism and Resources
 - Office of Film and Literature Classification
- those issued by the:
 - Australian Customs Service
 - Australian Federal Police
 - Australian Quarantine and Inspection Service (AQIS)
- other comparable national and international regulatory bodies

Processes may include:

- advice from more experienced colleagues, technical experts, internet, intranet, induction kits, internal training materials and programs
- AQIS requirements such as fumigation, quarantine or other
- completion of customs declarations
- completion of required financial transactions
- consulting technical experts in the industry, professional associations, training providers,

RANGE STATEMENT	
	<p>government bodies and agencies</p> <ul style="list-style-type: none"> • inspection processes • obtaining necessary permits • transport and warehousing arrangements in country of origin and destination within Australia • using reference material within the organisation from training providers and government bodies and agencies, professional libraries, trade journals
<i>Costs</i> may include:	<ul style="list-style-type: none"> • administrative charges for handling of commodities • brokerage fees • charges levied in country of origin • government charges such as duty, tariff, permits, goods and services tax (GST) • insurances • interest on borrowed capital • other fees and charges (local and overseas) • packing, port charges, transport and storage charges (local and overseas)
<i>Determination of components of costs</i> may include:	<ul style="list-style-type: none"> • advice from supervisor or manager, more experienced colleagues, customs brokers, training staff, technical experts • previous history of international movement of goods involving same or comparable countries • quotation or reference to existing tender or contract • reference material within the organisation, training providers, professional libraries, trade journals or accessing internet or organisation's intranet • tables of fees and charges
<i>Relevant parties</i> may include:	<ul style="list-style-type: none"> • Australian and international regulatory bodies • client (seller and buyer) • financial institutions • non-regulatory government agencies • other personnel within the organisation
<i>Services</i> may include:	<ul style="list-style-type: none"> • air freight • ocean freight • rail transport

RANGE STATEMENT	
	<ul style="list-style-type: none"> • road transport • warehousing and storage en route
<i>Communication</i> may include:	<ul style="list-style-type: none"> • electronic data interchange (EDI) • email • fax • interactive services used to communicate with the Australian Customs Service Integrated Cargo System (ICS) • letter • radio • telephone
<i>Problems</i> may include:	<ul style="list-style-type: none"> • delays in transit at transfer from one mode of transport to another or at international borders • insurance claims as a result of damage to goods during transit • other problems arising due to weather, industrial action, political unrest

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Business Development - International Business
-------------------------	---

Co-requisite units

Co-requisite units	

BSBITU201A Produce simple word processed documents

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to correctly operate word processing applications in the production of workplace documents.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to individuals who perform a range of routine tasks in the workplace, using a limited range of practical skills and fundamental knowledge of word processing and software in a defined context, under direct supervision or with limited individual responsibility.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to produce documents	1.1. Use safe work practices to ensure <i>ergonomic, work organisation, energy and resource conservation requirements</i> are addressed 1.2. Identify <i>document</i> purpose, audience and presentation requirements, and clarify with relevant personnel as required 1.3. Identify <i>organisational</i> and task <i>requirements</i> for document layout and design
2. Produce documents	2.1. <i>Format</i> document using appropriate <i>software functions</i> to adjust page layout to meet information requirements, in accordance with organisational style and presentation requirements 2.2. Use system features to identify and manipulate <i>screen display options and controls</i> 2.3. Use manuals, user documentation and online help to overcome problems with document presentation and production
3. Finalise documents	3.1. Ensure final document is previewed, <i>checked</i> , adjusted and <i>printed</i> in accordance with organisational and task requirements 3.2. Ensure document is prepared within <i>designated time lines</i> and organisational requirements 3.3. <i>Name and store document</i> in accordance with organisational requirements and exit application without information loss/damage

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to clarify document requirements
- editing and proofreading skills to check own work for accuracy
- keyboarding skills to enter text and numerical data
- literacy skills to read and understand organisation's procedures, and to use basic models to produce a range of correspondence
- problem-solving skills to solve routine problems.

Required knowledge

- formatting styles and their effect on formatting, readability and appearance of documents
- purpose, use and function of word processing software
- organisational requirements for ergonomics, work periods and breaks, and conservation techniques
- organisational style guide.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • knowledge of simple word processing functions, standard document layout and design principles • production of a minimum of three simple, word processed documents.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • access to examples of word processed documents and style guides.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of formatted document • review of final document • demonstration of techniques • oral or written questioning to assess knowledge of word processing software functions.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • general administration units • other IT use units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Ergonomic requirements</i> may include:</p>	<ul style="list-style-type: none"> • avoiding radiation from computer screens • chair height, seat and back adjustment • document holder • footrest • keyboard and mouse position • lighting • noise minimisation • posture • screen position • workstation height and layout
<p><i>Work organisation requirements</i> may include:</p>	<ul style="list-style-type: none"> • exercise breaks • mix of repetitive and other activities • rest periods
<p><i>Conservation requirements</i> may include:</p>	<ul style="list-style-type: none"> • disposing of non-confidential waste paper in recycling bins • double-sided paper use • re-using paper for rough drafts (observing confidentiality requirements) • utilising power-save options for equipment
<p><i>Documents</i> may include:</p>	<ul style="list-style-type: none"> • agendas • briefing papers • envelopes • faxes • labels • letters • mail merges • memos • minutes • short reports • simple one-page flyers • standard form letters
<p><i>Organisational requirements</i> may</p>	<ul style="list-style-type: none"> • company colour scheme

RANGE STATEMENT	
include:	<ul style="list-style-type: none"> • company logo • consistent corporate image • content restrictions • established guidelines and procedures for document production • house styles • observing copyright legislation • organisation name, time, date, document title, filename etc. in header/footer • templates
Formatting may include:	<ul style="list-style-type: none"> • alignment on page • columns • company logo/letterhead • enhancements to format - borders, patterns and colours • enhancements to text - colour, size, orientation • headers/footers • margins • page orientation
Software functions may include:	<ul style="list-style-type: none"> • default settings • document protection • grammar check • headers/footers • indent • line spacing • page numbers • page set up • paragraph formatting • spell check • tabs • text formatting
Screen display options and controls may include:	<ul style="list-style-type: none"> • layout view • maximise/minimise • normal view • page view • print preview • ruler • toolbars • zoom percentage

RANGE STATEMENT	
<i>Checking</i> may include:	<ul style="list-style-type: none"> • accuracy of information • consistency of layout • ensuring instructions with regard to content and format have been followed • grammar • proofreading • spelling, electronically and manually
<i>Printing</i> may include:	<ul style="list-style-type: none"> • basic print settings • multiple copies • odd or even pages • print preview • printer setup • specified pages • whole document
<i>Designated time lines</i> may include:	<ul style="list-style-type: none"> • organisational time line e.g. deadline requirements • time line agreed with internal/external client • time line agreed with supervisor/person requiring document/s
<i>Naming and storing documents</i> may include:	<ul style="list-style-type: none"> • appropriate file type • authorised access • file names according to organisational procedure e.g. numbers rather than names • file names which are easily identifiable in relation to the content • file/directory names which identify the operator, author, section, date etc. • filing locations • organisational policy for backing up files • organisational policy for filing hard copies of documents • security • storage in folders/sub-folders • storage on hard/floppy disk drives, CD-ROM, tape back-up

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Information and Communications Technology - IT Use
-------------------------	--

Co-requisite units

Co-requisite units		

BSBITU202A Create and use spreadsheets

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to correctly create and use spreadsheets and charts through the use of spreadsheet software.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to individuals who perform a range of routine tasks in the workplace using a limited range of practical skills and fundamental knowledge of creating spreadsheets in a defined context under direct supervision or with limited individual responsibility.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and prepare resources	1.1. Adjust workspace, furniture and equipment to suit user <i>ergonomic, work organisation</i> and occupational health and safety (OHS) <i>requirements</i> 1.2. Use energy and resource <i>conservation techniques</i> to minimise wastage in accordance with organisational and statutory requirements 1.3. Identify <i>spreadsheet task requirements</i> and clarify with relevant personnel as required
2. Create simple spreadsheets	2.1. Ensure <i>data</i> is entered, <i>checked</i> and amended in accordance with organisational and task requirements, to maintain consistency of design and layout 2.2. <i>Format</i> spreadsheet using <i>software functions</i> , to adjust page and cell layout to meet information requirements, in accordance with organisational style and presentation requirements 2.3. Ensure <i>formulae</i> are used and tested to confirm output meets task requirements, in consultation with appropriate personnel as required 2.4. Use manuals, user documentation and online help to overcome problems with spreadsheet design and production
3. Produce simple charts	3.1. Select <i>chart type</i> and design that enables valid representation of numerical data and meets organisational and task requirements 3.2. Create chart using appropriate data range in the spreadsheet 3.3. Modify chart type and layout using formatting <i>features</i>
4. Finalise spreadsheets	4.1. Ensure spreadsheet and any accompanying charts are previewed, adjusted and <i>printed</i> in accordance with organisational and task requirements 4.2. Ensure data input meets <i>designated time lines</i> and organisational requirements for speed and accuracy 4.3. Name and <i>store</i> spreadsheet in accordance with organisational requirements and exit the application without data loss/damage

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to clarify requirements of spreadsheet
- editing and proofreading skills to check own work for accuracy
- keyboarding skills to enter text and numerical data
- literacy skills to read and understand organisation's procedures, and to use basic models to produce a range of spreadsheets
- numeracy skills to create and use spreadsheet formulae.

Required knowledge

- formatting of workplace documents
- organisational requirements for ergonomic standards, work periods and breaks, and conservation techniques
- organisational guidelines on spreadsheet manipulation and processing
- purpose and range of use of spreadsheet functions.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • designing a minimum of two spreadsheets • using cell-based formulae • creating charts using relevant data • knowledge of purpose and range of use of spreadsheet functions.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • access to examples of spreadsheets and simple formulae.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of final spreadsheets • analysis of responses to case studies and scenarios • demonstration of techniques • oral or written questioning to assess knowledge of spreadsheet software functions.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • general administration units • other IT use units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Ergonomic requirements</i> may include:	<ul style="list-style-type: none"> • avoiding radiation from computer screens • chair height, seat and back adjustment • document holder • footrest • keyboard and mouse position • lighting • noise minimisation • posture • screen position • workstation height and layout
<i>Work organisation requirements</i> may include:	<ul style="list-style-type: none"> • exercise breaks • mix of repetitive and other activities • rest periods
<i>Conservation techniques</i> may include:	<ul style="list-style-type: none"> • double-sided paper use • recycling used and shredded paper • re-using paper for rough drafts (observing confidentiality requirements) • utilising power-save options for equipment
<i>Spreadsheet task requirements</i> may include:	<ul style="list-style-type: none"> • data entry • output • presentation • storage
<i>Data</i> may include:	<ul style="list-style-type: none"> • numbers • text
<i>Checking</i> may include:	<ul style="list-style-type: none"> • accuracy of data • accuracy of formulae with calculator • ensuring instructions with regard to content and format have been followed • proofreading • spelling, electronically and manually
<i>Formatting</i> may include:	<ul style="list-style-type: none"> • alignment on page • efficiency of formulae

RANGE STATEMENT	
	<ul style="list-style-type: none"> • enhancements to format - borders, patterns and colours • enhancements to text • headers/footers • use of absolute and relative cell addresses • use of cell addresses in formulae
<i>Software functions</i> may include:	<ul style="list-style-type: none"> • adding/deleting columns/rows • formatting cells • formatting text • headers/footers • sizing columns/rows
<i>Formulae</i> may include:	<ul style="list-style-type: none"> • absolute cell referencing and/or mixed references • average • division • maximum • minimum • multiplication • subtraction • sum • combinations of above
<i>Chart types</i> may include:	<ul style="list-style-type: none"> • area • bar • column • exploded pie • line • pie and 3-D pie • scatter/bubble • stacked/multiple bar • stacked, 3-D column
<i>Features</i> may include:	<ul style="list-style-type: none"> • axes • axis title • borders • chart title • colours • data labels • data tables • fills • gridlines • legend

RANGE STATEMENT	
	<ul style="list-style-type: none"> • lines • patterns
<i>Printing</i> may include:	<ul style="list-style-type: none"> • fit on one page • fit specific number of pages • with formulae • with values
<i>Designated time lines</i> may include:	<ul style="list-style-type: none"> • organisational time line e.g. financial requirements • time line agreed with internal/external client • time line agreed with supervisor/person requiring spreadsheet
<i>Storing</i> data may include:	<ul style="list-style-type: none"> • authorised access • filing locations • organisational policy for backing up files • organisational policy for filing hard copies of spreadsheets • security • storage in electronic folders/sub-folders • storage on CD-ROM, zip drives, USB memory

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Information and Communications Technology - IT Use
-------------------------	--

Co-requisite units

Co-requisite units	

BSBLED401A Develop teams and individuals

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to determine individual and team development needs and to facilitate the development of the workgroup.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to individuals with a broad knowledge of learning and development who apply their skills in addressing development needs to meet team objectives. They may have responsibility to provide guidance or to delegate aspects of tasks to others.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine development needs	<p>1.1. Systematically identify and implement <i>learning and development needs</i> in line with <i>organisational requirements</i></p> <p>1.2. Ensure that a learning plan to meet individual and group training and development needs is collaboratively developed, agreed to and implemented</p> <p>1.3. Encourage individuals to self-evaluate performance and identify areas for improvement</p> <p>1.4. Collect <i>feedback on performance</i> of team members from relevant sources and compare with established team learning needs</p>
2. Develop individuals and teams	<p>2.1. Identify learning and development program goals and objectives, ensuring a match to the specific knowledge and skill requirements of competency standards relevant to the industry</p> <p>2.2. Ensure that <i>learning delivery methods</i> are appropriate to the learning goals, the learning style of participants, and availability of <i>equipment and resources</i></p> <p>2.3. Provide workplace learning opportunities, and <i>coaching and mentoring assistance</i> to facilitate individual and team achievement of competencies</p> <p>2.4. Create development opportunities that incorporates a range of activities and support materials appropriate to the achievement of identified competencies</p> <p>2.5. Identify and approve resources and time lines required for learning activities in accordance with organisational requirements</p>
3. Monitor and evaluate workplace learning	<p>3.1. Use feedback from individuals or teams to identify and implement improvements in future learning arrangements</p> <p>3.2. Assess and record outcomes and performance of individuals/teams to determine the effectiveness of development programs and the extent of additional development support</p> <p>3.3. Negotiate modifications to learning plans to improve the efficiency and effectiveness of learning</p> <p>3.4. Document and maintain records and reports of competency according to organisational requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to receive and report on feedback, to maintain effective relationships and to manage conflict
- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- leadership skills to gain trust and confidence of clients and colleagues
- literacy skills to read, write and understand a variety of texts; and to edit and proofread documents to ensure clarity of meaning, accuracy and consistency of information
- negotiation skills to achieve mutually acceptable outcomes
- technology skills to support effective communication and presentation.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - occupational health and safety (OHS)
- facilitation techniques to encourage team development and improvement
- organisational policies, plans and procedures
- career paths and competency standards relevant to the industry.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> identifying and implementing learning opportunities for others giving and receiving feedback from team members to encourage participation in and effectiveness of team creating learning plans to match skill needs knowledge of relevant legislation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to an actual workplace or simulated environment access to office equipment and resources examples of learning and development plans, policies and procedures examples of documents relating to diversity policies and procedures.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate analysis of responses to case studies and scenarios oral or written questioning to assess knowledge of career paths and competency standards relevant to the industry review of records and reports of competency.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> management units other learning and development units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Learning and development needs</i> may include:</p>	<ul style="list-style-type: none"> • career planning/development • coaching, mentoring and/or supervision • formal/informal learning programs • internal/external training provision • performance appraisals • personal study • recognition of current competence/skills recognition • work experience/exchange/opportunities • workplace skills assessment
<p><i>Organisational requirements</i> may include:</p>	<ul style="list-style-type: none"> • access and equity principles and practices • anti-discrimination and related policy • business and performance plans • confidentiality and security requirements • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • legal and organisational policies, guidelines and requirements • OHS policies, procedures and programs • quality and continuous improvement processes and standards • quality assurance and/or procedures manuals
<p><i>Feedback on performance</i> may include:</p>	<ul style="list-style-type: none"> • formal/informal performance appraisals • obtaining feedback from clients • obtaining feedback from supervisors and colleagues • personal, reflective behaviour strategies • routine organisational methods for monitoring service delivery
<p><i>Learning delivery methods</i> may include:</p>	<ul style="list-style-type: none"> • conference and seminar attendance • formal course participation • induction

RANGE STATEMENT	
	<ul style="list-style-type: none"> • involvement in professional networks • on-the-job coaching or mentoring • presentations/demonstrations • problem-solving • work experience
<i>Equipment and resources</i> may include:	<ul style="list-style-type: none"> • facilities • funding • guest speakers • technological tools and equipment • time • training equipment such as whiteboards and audio-visual equipment
<i>Coaching and mentoring assistance</i> may include:	<ul style="list-style-type: none"> • fair and ethical practice • non-discriminatory processes and activities • presenting and promoting a positive image of the collective group • problem-solving • providing encouragement • providing feedback to another team member • respecting the contribution of all participants and giving credit for achievements

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Workforce Development - Learning and Development
-------------------------	--

Co-requisite units

Co-requisite units		

BSBMGT401A Show leadership in the workplace

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to work with teams and individuals, their standard of conduct and the initiative they take in influencing others. At this level, work will normally be carried out within routine and non routine methods and procedures which require the exercise of some discretion and judgement.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>Frontline management provides the first level of leadership within the organisation. This unit applies to people who are making the transition from being a team member, to taking responsibility for the work and performance of others.</p> <p>Frontline managers have a strong influence on the work culture, values and ethics of the teams they supervise. As such it is important that frontline managers model good practice, professionalism and confidently represent their organisation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Model high standards of management performance and behaviour	1.1. Ensure management performance and behaviour meets the organisation's requirements 1.2. Ensure management performance and behaviour serves as a positive role model for others 1.3. Develop and implement performance plans in accordance with organisation's goals and objectives 1.4. Establish and use key performance indicators to meet organisation's goals and objectives
2. Enhance organisation's image	2.1. Use <i>organisation's standards and values</i> in conducting business 2.2. Question, through established communication channels, standards and values considered to be damaging to the organisation 2.3. Ensure personal performance contributes to developing an organisation which has integrity and credibility
3. Make informed decisions	3.1. Gather and organise information relevant to the issue/s under consideration 3.2. Facilitate individuals and teams active participation in decision making processes 3.3. Examine options and assess associated risks to determine preferred course/s of action 3.4. Ensure decisions are timely and communicate them clearly to individuals and teams 3.5. Prepare plans to implement decisions and ensure they are agreed by relevant individuals and teams 3.6. Use <i>feedback processes</i> effectively to monitor the implementation and impact of decisions

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication and presentation skills to represent the organisation, to explain its work to others and to model professionalism
- decision making skills to demonstrate good judgement and follow through.

Required knowledge

- basic theory of group behaviour
- leadership styles and concepts.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • articulation of organisational values and expectations of behaviour • instances where leadership and decision making have been demonstrated and which have led to positive changes in the workplace • knowledge of leadership styles and concepts.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to workplace documents.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • observation of presentations • review of performance plans • oral or written questioning to assess knowledge of leadership styles • evaluation of communication of expectations, roles and responsibilities • review of documentation examining options and assessing associated risks to determine preferred course/s of action.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Organisation's standards and values</i> will be:</p>	<ul style="list-style-type: none"> stated or implied by the way the organisation conducts its business
<p><i>Feedback processes</i> may be:</p>	<ul style="list-style-type: none"> formal or informal from internal or external sources

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Management
-------------------------	--

Co-requisite units

Co-requisite units	

BSBMGT402A Implement operational plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to implement the operational plan by monitoring and adjusting operational performance, producing short term plans for the department/section, planning and acquiring resources and providing reports on performance as required.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>Frontline managers are actively engaged in planning activities to achieve the measurable, stated objectives of the team and the organisation. This key role is carried out to provide safe, efficient and effective products and services to customer satisfaction within the organisation's productivity and profitability plans.</p> <p>At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning, evaluation, leadership and guidance of others.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement operational plan	<p>1.1. Collate, analyse and organise details of resource requirements in consultation with relevant personnel, colleagues and specialist resource managers</p> <p>1.2. Implement operational plans to contribute to the achievement of organisation's performance/business plan</p> <p>1.3. Identify and use key performance indicators (KPIs) to monitor operational performance</p> <p>1.4. Undertake contingency planning and consultation processes</p> <p>1.5. Provide assistance in the development and presentation of proposals for resource requirements in line with operational planning processes</p>
2. Implement resource acquisition	<p>2.1. Recruit and induct employees within organisation's policies, practices and procedures</p> <p>2.2. Implement plans for acquisition of physical resources and services within organisation's policies, practices and procedures and in consultation with relevant personnel</p>
3. Monitor operational performance	<p>3.1. Monitor performance systems and processes to assess progress in achieving profit/productivity plans and targets</p> <p>3.2. Analyse and use budget and actual financial information to monitor profit/productivity performance</p> <p>3.3. Identify unsatisfactory performance and take prompt action to rectify the situation according to organisational policies</p> <p>3.4. Provide mentoring, coaching and supervision to support individuals and teams to use resources effectively, economically and safely</p> <p>3.5. Present recommendations for variation to operational plans to the designated persons/groups and gain approval</p> <p>3.6. Implement systems, procedures and records associated with performance in accordance with organisation's requirements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- coaching and mentoring skills to provide support to colleagues
- literacy skills to access and use workplace information, and to prepare reports
- planning and organising skills to monitor performance and to sequence work of self and others to achieve planned outcomes.

Required knowledge

- principles and techniques associated with:
 - contingency planning
 - methods for monitoring and reporting on performance
 - monitoring and implementing operations and procedures
 - problem identification and methods of resolution
 - relevant budgeting and financial analysis, interpretation and reporting requirements
 - resource management systems at the tactical implementation level
 - resource planning and acquisition
 - tactical risk analysis including identification and reporting requirements.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> ability to monitor and adjust operational performance, produce short-term plans for the department or section, plan and acquire resources, and provide reports on performance as required knowledge of principles and techniques associated with monitoring and implementing operations and procedures.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate review of documentation outlining contingency planning and consultation processes undertaken demonstration of techniques in managing performance evaluation of mentoring, coaching and supervision provided to support individuals and teams to use resources effectively, economically and safely.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Resource requirements</i> may refer to:</p>	<ul style="list-style-type: none"> • goods and services to be purchased and ordered • human, physical and financial resources - both current and projected • stock requirements and requisitions
<p><i>Relevant personnel, colleagues and specialist resource managers</i> may include:</p>	<ul style="list-style-type: none"> • colleagues and specialist resource managers • managers • occupational health and safety committees and other people with specialist responsibilities • other employees • people from a wide range of social, cultural and ethnic backgrounds, and people with a range of physical and mental abilities • supervisors
<p><i>Operational plans</i> may refer to:</p>	<ul style="list-style-type: none"> • organisational plans • tactical plans developed by the department or section to detail product and service performance
<p><i>Key performance indicators</i> may refer to:</p>	<ul style="list-style-type: none"> • measures for monitoring or evaluating the efficiency or effectiveness of a system, and which may be used to demonstrate accountability and to identify areas for improvements
<p><i>Contingency planning</i> may refer to:</p>	<ul style="list-style-type: none"> • contracting out or outsourcing human resources and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials and consumables • increasing sales or production • recycling and re-use • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour

RANGE STATEMENT	
	<ul style="list-style-type: none"> costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or consumables • succession planning
<i>Consultation processes</i> may refer to:	<ul style="list-style-type: none"> • mechanisms used to provide feedback to the work team in relation to outcomes of consultation • meetings, interviews, brainstorming sessions, email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual operational plans
<i>Organisation's policies, practices and procedures</i> may include:	<ul style="list-style-type: none"> • organisational culture • Standard Operating Procedures • organisational guidelines which govern and prescribe operational functions, such as the acquisition and management of human and physical resources • undocumented practices in line with organisational operations
<i>Performance systems and processes</i> may refer to:	<ul style="list-style-type: none"> • informal systems used by frontline managers for the work team in the place of existing organisation-wide systems • formal processes within the organisation to measure performance, such as: <ul style="list-style-type: none"> • feedback arrangements • individual and teamwork plans • KPIs • specified work outcomes
<i>Designated persons/groups</i> may include:	<ul style="list-style-type: none"> • other affected work groups or teams and groups designated in workplace policies and procedures • those who have the authority to make decisions and/or recommendations about operations such as workplace supervisors, other managers
<i>Systems, procedures and records</i>	<ul style="list-style-type: none"> • databases and other recording mechanisms for ensuring records are kept in accordance with

RANGE STATEMENT

may include:

- organisational requirements
- individual and team performance plans
- organisational policies and procedures relative to performance

Unit Sector(s)

Unit sector

Competency field

Competency field

Management and Leadership - Management

Co-requisite units

Co-requisite units

BSBMGT403A Implement continuous improvement

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to implement the organisation's continuous improvement systems and processes. Particular emphasis is on using systems and strategies to actively encourage the team to participate in the process, monitoring and reviewing performance, and identifying opportunities for further improvements.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>Frontline managers have an active role in implementing the continuous improvement process to achieve the organisation's objectives. Their position, closely associated with the creation and delivery of products and services, means that they have an important role in influencing the ongoing development of the organisation.</p> <p>At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning and evaluation, and leadership and guidance of others.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement continuous improvement systems and processes	1.1. Implement <i>systems</i> to ensure that individuals and teams are actively encouraged and supported to <i>participate in decision making processes</i> , assume responsibility and exercise initiative 1.2. Communicate the organisation's <i>continuous improvement processes</i> to individuals and teams, and obtain feedback 1.3. Ensure effective <i>mentoring and coaching</i> allows individuals and teams to implement the organisation's continuous improvement processes
2. Monitor and review performance	2.1. Use the organisation's systems and <i>technology</i> to monitor and review progress and to identify ways in which planning and operations could be improved 2.2. Improve <i>customer service</i> through continuous improvement techniques and processes 2.3. Formulate and communicate recommendations for adjustments to those who have a role in their development and implementation
3. Provide opportunities for further improvement	3.1. Implement <i>processes to ensure that team members are informed of savings and productivity/service improvements</i> in achieving the business plan 3.2. Document work performance to aid the identification of further opportunities for improvement 3.3. Manage records, reports and recommendations for improvement within the organisation's systems and processes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - coach and mentor team members
 - gain the commitment of individuals and teams to continuously improve
- innovation skills to design better ways of performing work.

Required knowledge

- principles and techniques associated with:
 - benchmarking
 - best practice
 - change management
 - continuous improvement systems and processes
 - quality systems.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • taking active steps to implement, monitor and adjust plans, processes and procedures to improve performance • supporting others to implement the continuous improvement system/processes, and to identify and report opportunities for further improvement • knowledge of principles and techniques associated with continuous improvement systems and processes.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • assessment of written reports • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to assess knowledge of principles and techniques associated with change management • review of how the organisation's continuous improvement processes was communicated to individuals and teams • review of documentation of work performance.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Systems</i> may refer to:	<ul style="list-style-type: none"> forums, meetings newsletters and reports organisational policies and procedures web-based communication devices
<i>Participation in decision making processes</i> may include:	<ul style="list-style-type: none"> feedback in relation to outcomes of the consultative process processes which ensures all employees have the opportunity to contribute to organisational issues
<i>Continuous improvement processes</i> may include:	<ul style="list-style-type: none"> cyclical audits and reviews of workplace, team and individual performance evaluations and monitoring of effectiveness implementation of quality systems, such as International Standardization for Organization (ISO) modifications and improvements to systems, processes, services and products policies and procedures which allow the organisation to systematically review and improve the quality of its products, services and procedures seeking and considering feedback from a range of stakeholders
<i>Mentoring and coaching</i> may refer to:	<ul style="list-style-type: none"> providing assistance with problem-solving providing feedback, support and encouragement teaching another member of the team, usually focusing on a specific work task or skill
<i>Technology</i> may include:	<ul style="list-style-type: none"> computerised systems and software such as databases, project management and word processing telecommunications devices any other technology used to carry out work roles and responsibilities

RANGE STATEMENT	
<i>Customer service</i> may be:	<ul style="list-style-type: none"> • internal or external • to existing, new or potential clients
<i>Processes to ensure that team members are informed of savings and productivity/service improvements</i> may refer to:	<ul style="list-style-type: none"> • email/intranet, newsletters or other communication devices • newsletters and bulletins • staff reward mechanisms • team meetings

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Management
-------------------------	--

Co-requisite units

Co-requisite units	

BSBMGT502B Manage people performance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to manage the performance of staff who report to them directly. Development of key result areas and key performance indicators and standards, coupled with regular and timely coaching and feedback, provide the basis for performance management.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to all managers and team leaders who manage people. It covers work allocation and the methods to review performance, reward excellence and provide feedback where there is a need for improvement.</p> <p>The unit makes the link between performance management and performance development, and reinforces both functions as a key requirement for effective managers.</p> <p>This is a unit that all managers/prospective managers who have responsibility for other employees should strongly consider undertaking.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Allocate work	1.1. Consult relevant groups and individuals on work to be allocated and resources available 1.2. Develop work plans in accordance with operational plans 1.3. Allocate work in a way that is efficient, cost effective and outcome focussed 1.4. Confirm <i>performance standards, Code of Conduct</i> and work outputs with relevant teams and individuals 1.5. Develop and agree <i>performance indicators</i> with relevant staff prior to commencement of work 1.6. Conduct <i>risk analysis</i> in accordance with the organisational risk management plan and legal requirements
2. Assess performance	2.1. Design <i>performance management</i> and review processes to ensure consistency with organisational objectives and policies 2.2. Train participants in the performance management and review process 2.3. Conduct performance management in accordance with organisational protocols and time lines 2.4. Monitor and evaluate performance on a continuous basis
3. Provide feedback	3.1. Provide informal feedback to staff on a regular basis 3.2. Advise relevant people where there is poor performance and take necessary actions 3.3. Provide on-the-job coaching when necessary to improve performance and to confirm <i>excellence in performance</i> 3.4. Document performance in accordance with the organisational performance management system 3.5. Conduct formal structured feedback sessions as necessary and in accordance with organisational policy
4. Manage follow up	4.1. Write and agree performance improvement and development plans in accordance with organisational policies 4.2. Seek assistance from human resources specialists where appropriate 4.3. Reinforce excellence in performance through recognition and continuous feedback

ELEMENT	PERFORMANCE CRITERIA
	<p>4.4. Monitor and coach individuals with poor performance</p> <p>4.5. Provide support services where necessary</p> <p>4.6. Counsel individuals who continue to perform below expectations and implement the disciplinary process if necessary</p> <p>4.7. <i>Terminate</i> staff in accordance with legal and organisational requirements where serious misconduct occurs or ongoing poor-performance continues</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to articulate expected standards of performance, to provide effective feedback and to coach staff who need development
- risk management skills to analyse, identify and develop mitigation strategies for identified risks
- planning and organisation skills to ensure a planned and objective approach to the performance management system.

Required knowledge

- relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety and environmental issues, equal opportunity, industrial relations and anti-discrimination
- relevant awards and certified agreements
- performance measurement systems utilised within the organisation
- unlawful dismissal rules and due process
- staff development options and information.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • documented performance indicators and a critical description and analysis of performance management system from the workplace • techniques in providing feedback and coaching for improvement in performance • knowledge of relevant awards and certified agreements.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of written reports • demonstration of techniques in providing feedback and coaching • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of work plans, performance indicators, risk analysis, performance management and review processes, performance improvement and development plans.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other management units.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Performance standards</i> mean:	<ul style="list-style-type: none"> level of performance sought from an individual or group which may be expressed either quantitatively or qualitatively
<i>Code of Conduct</i> means:	<ul style="list-style-type: none"> agreed (or decreed) set of rules relating to employee behaviour/conduct with other employees or an agreed (or decreed) set of rules relating to employee behaviour/conduct with other employees or customers
<i>Performance indicators</i> mean:	<ul style="list-style-type: none"> measures against which performance outcomes are gauged
<i>Risk analysis</i> means:	<ul style="list-style-type: none"> determination of the likelihood of a negative event preventing the organisation meeting its objectives and the likely consequences of such an event on organisational performance
<i>Performance management</i> means:	<ul style="list-style-type: none"> in accordance with relevant industrial agreements process or set of processes for establishing a shared understanding of what an individual or group is to achieve, and managing and developing individuals in a way which increases the probability it will be achieved in both the short- and long-term
<i>Excellence in performance</i> means:	<ul style="list-style-type: none"> regularly and consistently exceeding the performance targets established while meeting the organisation's performance standards
<i>Termination</i> means:	<ul style="list-style-type: none"> cessation of the contract of employment between an employer and an employee, at the initiative of the employer within relevant industrial agreements

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Management
-------------------------	--

Co-requisite units

Co-requisite units		

BSBMGT515A Manage operational plan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop and monitor implementation of the operational plan to provide efficient and effective workplace practices within the organisation's productivity and profitability plans.</p> <p>Management at a strategic level requires systems and procedures to be developed and implemented to facilitate the organisation's operational plan.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to people who manage the work of others and operate within the parameters of a broader strategic and/or business plan. The task of the manager at this level is to develop and implement an operational plan to ensure that the objectives and strategies outlined in the strategic and/or business plan are met by work teams. However in some larger organisations operational plans may be developed by a strategic planning unit.</p> <p>At this level work will normally be carried out within complex and diverse methods and procedures, which require the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop operational plan	<p>1.1. Research, analyse and document resource requirements and develop an operational plan in consultation with relevant personnel, colleagues and specialist resource managers</p> <p>1.2. Develop and/or implement consultation processes as an integral part of the operational planning process</p> <p>1.3. Ensure details of the operational plan include the development of key performance indicators to measure organisational performance</p> <p>1.4. Develop and implement contingency plans at appropriate stages of operational planning</p> <p>1.5. Ensure the development and presentation of proposals for resource requirements is supported by a variety of information sources and seek specialist advice as required</p> <p>1.6. Obtain approval for plan from relevant parties and ensure understanding among work teams involved</p>
2. Plan and manage resource acquisition	<p>2.1. Develop and implement strategies to ensure that employees are recruited and/or inducted within the organisation's human resources management policies and practices</p> <p>2.2. Develop and implement strategies to ensure that physical resources and services are acquired in accordance with the organisation's policies, practices and procedures</p>
3. Monitor and review operational performance	<p>3.1. Develop, monitor and review performance systems and processes to assess progress in achieving profit and productivity plans and targets</p> <p>3.2. Analyse and interpret budget and actual financial information to monitor and review profit and productivity performance</p> <p>3.3. Identify areas of under performance, recommend solutions, and take prompt action to rectify the situation</p> <p>3.4. Plan and implement systems to ensure that mentoring and coaching are provided to support individuals and teams to effectively, economically and safely use resources</p> <p>3.5. Negotiate recommendations for variations to operational plans and gain approval from designated persons/groups</p>

ELEMENT	PERFORMANCE CRITERIA
	3.6. Develop and implement systems to ensure that procedures and records associated with documenting performance are managed in accordance with organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to access and use workplace information and to write a succinct and practical plan
- technology skills to use software to produce and monitor the plan against performance indicators
- planning and organisational skills
- coaching skills to work with people with poor performance
- numeracy skills to allocate and manage financial resources.

Required knowledge

- models and methods for operational plans
- budgeting processes
- alternative approaches to improving resource usage and eliminating resource inefficiencies and waste.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of an operational plan with details of how it will be implemented and monitored • knowledge of models and methods for operational plans.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • oral or written questioning to assess knowledge of budgeting processes • review of operational plan, key performance indicators and contingency plans • evaluation of employee recruitment and induction strategies • evaluation of processes implemented to acquire physical resources and services.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Resource requirements</i> may include:</p>	<ul style="list-style-type: none"> • goods and services to be purchased and ordered • human, physical and financial resources - both current and projected • stock requirements and requisitions
<p><i>Relevant personnel, colleagues and specialist resource managers</i> may include:</p>	<ul style="list-style-type: none"> • employees at the same level or more senior managers • managers • occupational health and safety committee/s and other people with specialist responsibilities • supervisors • union or employee representatives
<p><i>Consultation processes</i> may refer to:</p>	<ul style="list-style-type: none"> • email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual operational plans • mechanisms used to provide feedback to the work team in relation to outcomes of consultation • meetings, interviews, brainstorming sessions
<p><i>Operational plans</i> may also be termed:</p>	<ul style="list-style-type: none"> • action plans • annual plans • management plans • tactical plans
<p><i>Key performance indicators</i> may refer to:</p>	<ul style="list-style-type: none"> • measures for monitoring or evaluating the efficiency or effectiveness of a system which may be used to demonstrate accountability and to identify areas for improvements
<p><i>Contingency plans</i> may include:</p>	<ul style="list-style-type: none"> • contracting out or outsourcing human resources and other functions or tasks • diversification of outcomes • finding cheaper or lower quality raw materials

RANGE STATEMENT	
	<p>and consumables</p> <ul style="list-style-type: none"> • increasing sales or production • recycling and re-using • rental, hire purchase or alternative means of procurement of required materials, equipment and stock • restructuring of organisation to reduce labour costs • risk identification, assessment and management processes • seeking further funding • strategies for reducing costs, wastage, stock or consumables • succession planning
<i>Organisation's policies, practices and procedures</i> may include:	<ul style="list-style-type: none"> • organisational culture • organisational guidelines which govern and prescribe operational functions, such as the acquisition and management of human and physical resources • Standard Operating Procedures • undocumented practices in line with organisational operations
<i>Designated persons/groups</i> may include:	<ul style="list-style-type: none"> • groups designated in workplace policies and procedures • managers or supervisors whose roles and responsibilities include decision making on operations • other stakeholders such as Board members • other work groups or teams whose work will be affected by recommendations for variations

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Management
-------------------------	--

Co-requisite units

Co-requisite units		

BSBMGT516C Facilitate continuous improvement

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to lead and manage continuous improvement systems and processes. Particular emphasis is on the development of systems and the analysis of information to monitor and adjust performance strategies, and to manage opportunities for further improvements.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to managers who take an active role in managing a continuous improvement process in order to achieve an organisation's objectives. Where managers are closely associated with the creation and delivery of products and services, they play an important part in influencing the ongoing development of the organisation.</p> <p>At this level, work will normally be carried out using complex and diverse methods and procedures which require the exercise of considerable discretion and judgement, using a range of problem-solving and decision-making strategies.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Lead continuous improvement systems and processes	1.1. Develop <i>strategies</i> to ensure that team members are actively encouraged and supported to participate in decision-making processes, assume responsibility and exercise initiative as appropriate 1.2. Establish <i>systems</i> to ensure that the organisation's <i>continuous improvement processes</i> are communicated to <i>stakeholders</i> 1.3. Ensure that change and improvement processes meet <i>sustainability requirements</i> 1.4. Develop effective mentoring and coaching processes to ensure that individuals and teams are able to implement and support the organisation's continuous improvement processes 1.5. Ensure that insights and experiences from business activities are captured and accessible through <i>knowledge management systems</i>
2. Monitor and adjust performance strategies	2.1. Develop strategies to ensure that systems and processes are used to monitor <i>operational progress</i> and to identify ways in which planning and operations could be improved 2.2. Adjust and communicate strategies to stakeholders according to organisational procedures
3. Manage opportunities for further improvement	3.1. Establish processes to ensure that team members are informed of outcomes of continuous improvement efforts 3.2. Ensure processes include <i>recording of work team performance</i> to assist in identifying further opportunities for improvement 3.3. Consider areas identified for further improvement when undertaking future planning

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to communicate opportunities for improvement
- learning skills to coach and mentor staff, using a range of methods to cater for different learning styles
- innovation and lateral thinking skills to design better ways for achieving work outcomes
- planning skills to establish and monitor systems and process for continuous improvement
- teamwork and leadership skills to gain the confidence and trust of others

Required knowledge

- continuous improvement models
- knowledge management systems
- quality systems
- sustainability principles

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> development and use of a range of strategies and approaches that improve work outcomes or organisational functioning, using continuous improvement models monitoring performance and customer service.
Context of and specific resources for assessment	Assessment must ensure access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>The following assessment methods are appropriate for this unit:</p> <ul style="list-style-type: none"> analysis of responses to case studies and scenarios assessment of reports direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate observation of presentations oral or written questioning to assess knowledge of quality systems review of strategies developed to ensure that team members are actively encouraged and supported to participate in decision-making processes, assume responsibility and exercise initiative evaluation of how customer-service strategies were communicated to stakeholders review of documentation outlining work team performance.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Strategies</i> may refer to:</p>	<ul style="list-style-type: none"> • clarification of roles and expectations • communication devices and processes, such as intranet and email communication systems, to facilitate input into workplace decisions • long-term or short-term plans that factor in opportunities for team input • mentoring and 'buddy' systems to support team members to participate in decision making • performance plans • reward and recognition programs for high performing staff • training and development activities.
<p><i>Systems</i> may refer to:</p>	<ul style="list-style-type: none"> • forums and meetings • newsletters and reports • policies and procedures • electronic communication devices.
<p><i>Continuous improvement processes</i> may include:</p>	<ul style="list-style-type: none"> • cyclical audits and reviews of workplace, team and individual performance • evaluations and monitoring of effectiveness • modifications and improvements to systems, processes, services and products • policies and procedures that allow an organisation to systematically review and improve the quality of its products, services and procedures • seeking and considering feedback from a range of stakeholders.
<p><i>Stakeholders</i> may include:</p>	<ul style="list-style-type: none"> • business or government contacts • funding bodies • individuals within the work team • internal and external contacts • organisation's clients and customers • professional associations • senior management and board members

RANGE STATEMENT	
	<ul style="list-style-type: none"> • unions and employee groups.
<p><i>Sustainability requirements</i> may include:</p>	<ul style="list-style-type: none"> • addressing environmental and resource sustainability initiatives, such as environmental management systems, action plans, green office programs, surveys and audits • applying the waste management hierarchy in the workplace • complying with regulations and corporate social responsibility considerations for sustainability to enhance the organisation's standing in business and community environments • determining organisation's most appropriate waste treatment, including waste to landfill, recycling, re-use, recoverable resources and wastewater treatment • implementing ecological footprinting • implementing environmental management systems, e.g. ISO 14001:1996 Environmental management systems life cycle analyses • implementing government initiatives, e.g. Australian government's Greenhouse Challenge Plus • improving resource and energy efficiency • initiating and maintaining appropriate organisational procedures for operational energy consumption • introducing a green office program (a cultural change program) • introducing green purchasing • introducing national and international reporting initiatives, e.g. Global Reporting Initiative • introducing product stewardship • reducing emissions of greenhouse gases • reducing use of non-renewable resources • referencing standards, guidelines and approaches, such as sustainability covenants and compacts or triple bottom line reporting • supporting sustainable supply chain.
<p><i>Knowledge management systems</i> may include:</p>	<ul style="list-style-type: none"> • best practice transfer • communities of practice • cross-project learning • expert directories • knowledge brokers' knowledge mapping • knowledge repositories • measuring and reporting intellectual capital • mentoring

RANGE STATEMENT	
	<ul style="list-style-type: none"> • performance management • post-project reviews • proximity and architecture • social software • storytelling.
<i>Operational progress</i> may refer to:	<ul style="list-style-type: none"> • customer service indicators • OHS indicators • productivity gains • success in meeting agreed goals and performance indicators.
<i>Recording of work team performance</i> may include:	<ul style="list-style-type: none"> • annotated performance plans • quantitative data, such as production figures • recommendations for improvement • records and reports.

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and leadership - management
-------------------------	--

Co-requisite units

Co-requisite units		

BSBMKG501B Identify and evaluate marketing opportunities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to identify, evaluate and take advantage of marketing opportunities by analysing market data, distinguishing the characteristics of possible markets and assessing the viability of changes to operations.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to individuals working in senior marketing management roles who, together with a marketing team, identify, investigate and evaluate marketing opportunities to determine whether they meet organisational and marketing objectives. Based on this evaluation, changes to current business operations can be determined to take advantage of marketing opportunities.</p> <p>Adjusting the marketing mix in the light of new marketing opportunities is covered in BSBMKG502B Establish and adjust the marketing mix.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify marketing opportunities	1.1. Analyse <i>information on market and business needs</i> to identify <i>marketing</i> opportunities 1.2. Research potential <i>new markets</i> and assess opportunities to enter, shape or influence the market in terms of likely <i>contribution to the business</i> 1.3. Explore entrepreneurial, innovative approaches and creative ideas for their potential business application, and develop into potential marketing opportunities
2. Investigate marketing opportunities	2.1. Identify and analyse opportunities in terms of their likely fit with organisational goals and capabilities 2.2. <i>Evaluate</i> each opportunity to determine its impact on current business and customer base 2.3. Use an assessment of <i>external factors</i> , costs, benefits, risks and opportunities to determine the financial viability of each marketing opportunity 2.4. Determine probable return on investment and potential competitors 2.5. Describe and rank marketing opportunities in terms of their viability and likely contribution to the business
3. Evaluate required changes to current operations	3.1. Identify and document changes needed to current operations to take advantage of viable marketing opportunities 3.2. Ensure organisational changes to service an increased or different customer base include provision for continued quality of service to existing customers 3.3. Estimate <i>resource requirements</i> for changed operations 3.4. Determine and communicate viability of making changes to current operations to <i>key stakeholders</i> 3.5. Document newly identified marketing opportunities and required changes

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- literacy skills to identify and interpret market information, to write in a range of styles for different audiences and to document outcomes and requirements
- numeracy skills to calculate and evaluate financial information on new marketing options
- research and evaluation skills to gain information on and interpret market trends to identify marketing opportunities.

Required knowledge

- key provisions of relevant legislation from all forms of government, codes of practice and national standards that may affect aspects of business operations such as:
 - anti-discrimination legislation and the principles of equal opportunity, equity and diversity
 - ethical principles
 - marketing codes of practice and conduct such as the Australian Direct Marketing Association (ADMA) Direct Marketing Code of Practice; Free TV Australia Commercial Television Industry Code of Practice; and the Australian E-commerce Best Practice Model
 - privacy laws
 - Trade Practices Act
- organisational marketing plan, structure, products and services
- principles of marketing and the marketing mix
- statistical methods and techniques to evaluate marketing opportunities, including forecasting techniques.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> identifying and evaluating marketing opportunities to determine whether they will meet organisational objectives documenting how current business operations will need to be modified and what resources will be required to take advantage of newly identified and evaluated opportunities.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to office equipment and resources access to organisational strategic and marketing plans.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> analysis of responses to case studies assessment of written reports on identified marketing opportunities and evaluation activities direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate observation of presentations on opportunity identification, evaluation and required resources to capitalise on new marketing opportunities oral or written questioning to assess knowledge and understanding review of authenticated documents from the workplace or training environment review of testimony from team members, colleagues, supervisors or managers.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> BSBMKG502B Establish and adjust the marketing

EVIDENCE GUIDE	
	<ul style="list-style-type: none">mix• international business units• other marketing units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Information on market and business needs</i> may include:	<ul style="list-style-type: none"> • comparative market information • competitors' performance • customer requirements • legal and ethical requirements • market share • market trends and developments • new and emerging markets • profitability • sales figures
<i>Marketing</i> may include:	<ul style="list-style-type: none"> • business-to-business marketing • direct marketing • ideas marketing • marketing of goods • public sector marketing • services marketing • telemarketing
<i>New markets</i> may include:	<ul style="list-style-type: none"> • e-commerce • export markets • segments of the market not currently penetrated
<i>Contribution to the business</i> may include:	<ul style="list-style-type: none"> • effect on sales volume • growth • market share • profitability
<i>Evaluation</i> may include:	<ul style="list-style-type: none"> • investigation of: <ul style="list-style-type: none"> • knockout factors • present value analysis • return on investment • scored criteria • weighted criteria
<i>External factors</i> may include:	<ul style="list-style-type: none"> • codes of practice • policies and guidelines

RANGE STATEMENT	
	<ul style="list-style-type: none"> • regulations • relevant legislation
<i>Resource requirements</i> may include:	<ul style="list-style-type: none"> • additional staff • distribution costs • equipment • production costs • promotional costs • research and development • re-tooling • staff training
<i>Key stakeholders</i> may include:	<ul style="list-style-type: none"> • Board of directors • finance staff • human resources staff • managers • marketing personnel • owners • production staff • supervisors

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Business Development - Marketing
-------------------------	----------------------------------

Co-requisite units

Co-requisite units	

BSBMKG507A Interpret Market Trends And Developments

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to conduct an analysis of market data in order to determine organisational and competitor business performance, and to prepare market and business forecasts that assist in targeting marketing activities and in drawing up a marketing plan.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to marketing professionals who use statistical techniques to analyse organisational and competitor marketing performance, and to interpret new and emerging trends when forecasting future business needs. Information gathered is used to assist in developing an organisation's marketing plan and to determine the current or potential future success of marketing strategies.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret trends and market developments	1.1. Use <i>statistical analysis</i> of market <i>data</i> to interpret <i>market trends and developments</i> 1.2. Analyse market trends and developments for their potential impact on the business 1.3. Use <i>measures of central tendency or dispersion and correlations</i> between <i>sets of data</i> for quantitative interpretation of comparative market data 1.4. Perform qualitative analysis of <i>comparative market information</i> as a basis for reviewing business performance 1.5. Analyse the market <i>performance of existing and potential competitors</i> and their products or services, to identify potential <i>opportunities</i> or <i>threats</i>
2. Analyse qualitative results	2.1. Analyse performance data from all areas of the business to determine success of marketing activities 2.2. Identify over-performing and under-performing products and services to be considered for redevelopment or withdrawal 2.3. Forecast existing and emerging market needs based on information available using <i>forecasting techniques</i>
3. Report on market data	3.1. Prepare, plot and interpret data for visual presentation 3.2. Assess visual presentation for potential problems, and take any necessary corrective action 3.3. Report on analysis of market data to meet organisational requirements in terms of content, format, level of detail and scheduling

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- facilitation and presentation skills to present statistical findings
- literacy skills to prepare reports containing complex ideas and concepts
- numeracy skills to use a range of statistical analysis techniques and elementary probability.

Required knowledge

- economic, social, and industry directions and trends
- key provisions of relevant legislation from all forms of government, codes of practice and national standards that may affect aspects of business operations such as:
 - anti-discrimination legislation
 - consumer laws including appropriate state/territory legislation
 - ethical principles
 - marketing codes of practice and conduct such as the Australian Direct Marketing Association (ADMA) Direct Marketing Code of Practice
 - privacy laws
 - Trade Practices Act
- software applications especially spreadsheets and statistical packages, and use of the internet
- statistical methods and techniques, and reporting formats.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • applying a range of statistical techniques to analyse market trends and developments, current marketing performance and comparative market information • documenting analysis of market data including visual presentation of findings.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to office equipment and resources.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of written reports presenting findings of statistical analysis • demonstration of statistical and forecasting techniques in the workplace • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning • review of authenticated documents from the workplace or training environment • review of testimony from team members, colleagues, supervisors or managers.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBMKG401B Profile the market • BSBMKG402B Analyse consumer behaviour for specific markets • BSBMKG501B Identify and evaluate marketing opportunities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Statistical analysis</i> may include:</p>	<ul style="list-style-type: none"> • conversion rate of leads to sales • measures of central tendency particularly for such things as: <ul style="list-style-type: none"> • average order value • average response rate • measures of dispersion • nature and degree of relationship between variables • net response rate • normal distribution probability curve • sampling • time series analysis such as: <ul style="list-style-type: none"> • speed of response curve • recency or frequency grids • lifetime value of customers • net present value of customers
<p><i>Data</i> may include:</p>	<ul style="list-style-type: none"> • charts • curves • graphs • spreadsheets
<p><i>Market trends and developments</i> may include:</p>	<ul style="list-style-type: none"> • changes in technology • changes in supplier prices • demographic trends • ecological and environmental trends • economic trends (local, regional, national, international) • government activities e.g. interest rates, deregulation • industrial trends • penetration of new technologies • social and cultural factors
<p><i>Measures of central tendency or</i></p>	<ul style="list-style-type: none"> • cross-tabulations for grouped or ungrouped

RANGE STATEMENT	
<i>dispersion and correlations</i> may include:	<p>data</p> <ul style="list-style-type: none"> • mean • median • mode • Z, T and chi square tests
<i>Sets of data</i> may include:	<ul style="list-style-type: none"> • geodemographic segmentations available from proprietary suppliers such as: <ul style="list-style-type: none"> • ACORN • MOSAIC • PRIZM • segmentation by customer lists such as: <ul style="list-style-type: none"> • average order value by units or dollars • geography • lifetime value by units, dollars and transactions • recency and frequency or response/purchase • segmentation of the prospect list by: <ul style="list-style-type: none"> • demographic match with customers • geographic match with customers • psychographic match with customers
<i>Comparative market information</i> may include:	<ul style="list-style-type: none"> • best practice information • books and articles, including: <ul style="list-style-type: none"> • academic • business • general • industry • brochures • direct mail packages • documentaries and interviews on broadcast media • inter-firm comparison data • international benchmarking • internet • public or proprietary research • speeches
<i>Performance of existing and potential competitors</i> may include:	<ul style="list-style-type: none"> • comparisons about: <ul style="list-style-type: none"> • corporate share price • market share

RANGE STATEMENT	
	<ul style="list-style-type: none"> • number of customers • profitability • sales in units or dollars
<i>Opportunities</i> may include:	<ul style="list-style-type: none"> • alliances • cooperative ventures • exports • extending, expanding or otherwise changing an existing business through: <ul style="list-style-type: none"> • increasing customer numbers • increasing average order value • increasing lifetime value of the customer • reducing costs of marketing • improving current products/services • developing new distribution channels • franchising • joint ventures • new products or services for existing markets • new products or services for new markets • potential for greater penetration of existing markets with existing products or services • strategic alliances
<i>Threats</i> may include:	<ul style="list-style-type: none"> • new competitor entering the market • new products or services being launched by existing competitors • increased number of inactive customers resulting in reduced average lifetime • reduced average order value resulting in reduced average lifetime value
<i>Forecasting techniques</i> may include:	<ul style="list-style-type: none"> • Delphi techniques • model building • projection • scenario planning • surveys of intentions • top-down forecasting bottom-up forecasting

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Business Development - Marketing
-------------------------	----------------------------------

Co-requisite units

Co-requisite units		

BSBMKG514A Implement and monitor marketing activities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to implement marketing activities described in a marketing plan, to monitor their effectiveness in meeting organisational marketing objectives, and take actions to improve marketing performance.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to individuals working in marketing management positions who are responsible for implementing and monitoring organisational marketing strategies. In this role they would usually lead and coordinate a marketing team, implement the marketing plan, monitor the performance of marketing strategies and evaluate their effectiveness. They also involve team members in identifying improvements to marketing strategies and formulating recommendations for future marketing activities.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement marketing strategies and tactics	<p>1.1. Brief <i>stakeholders</i> who participated in the <i>marketing</i> planning process on their implementation roles and responsibilities</p> <p>1.2. Identify and brief marketing and <i>non-marketing personnel</i> critical to the success of the marketing plan, on the objectives of the plan, performance measures, and their roles and responsibilities</p> <p>1.3. Prioritise marketing strategies and identify <i>resources</i> for their implementation, in accordance with organisational requirements</p> <p>1.4. Implement communication and team building strategies to ensure that personnel responsible for each element of the <i>marketing mix</i> work together to meet the organisation's marketing objectives</p> <p>1.5. Implement strategies for monitoring marketing activities and analysing marketing performance, in accordance with the marketing plan</p>
2. Monitor marketing strategies and tactics	<p>2.1. Monitor and implement promotional activity against communication objectives in the marketing plan</p> <p>2.2. Monitor product, pricing and distribution decisions against organisational policy and the objectives of the marketing plan</p> <p>2.3. Monitor marketing results against targets in the marketing plan</p> <p>2.4. Monitor marketing revenue and costs against budget, and analyse record variations</p> <p>2.5. Prepare and present marketing reports that indicate ongoing progress towards marketing objectives</p>
3. Evaluate and improve marketing performance	<p>3.1. Regularly assess marketing performance against objectives</p> <p>3.2. Identify opportunities for improvement through discussion with customers and personnel responsible for each element of the marketing mix</p> <p>3.3. Change business practices in line with changing customer requirements to maintain business relevance and viability</p> <p>3.4. Document recommendations for improvement in accordance with organisational requirements</p> <p>3.5. Communicate changes to marketing objectives and targets with relevant stakeholders, to facilitate implementation</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities
- literacy skills to prepare complex reports on marketing performance
- numeracy skills to analyse marketing performance, revenue and cost
- teamwork skills to manage a marketing team.

Required knowledge

- organisational strategic and marketing objectives, plans and performance measures
- principles of the marketing mix
- key provisions of relevant legislation from all forms of government, codes of practice and national standards that may affect aspects of business operations such as:
 - anti-discrimination legislation and principles of equal opportunity, equity, and diversity
 - ethical principles
 - marketing codes of practice and conduct such as the Australian Direct Marketing Association (ADMA) Direct Marketing Code of Practice
 - privacy laws
 - Trade Practices Act.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • successfully implementing marketing strategies identified in an organisation's marketing plan • coordinating personnel involved in conducting marketing activities • monitoring, evaluating and reporting on marketing activities against defined objectives • modifying marketing activities in line with new or emerging trends.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to office equipment and resources • access to organisational and marketing strategic plans.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of written reports on marketing performance • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of team management activities • observation of presentations on marketing performance reports • oral or written questioning • review of authenticated documents from the workplace or training environment • review of testimony from team members, colleagues, supervisors or managers.
Guidance information for assessment	<ul style="list-style-type: none"> • Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • other marketing units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Stakeholders</i> may include:	<ul style="list-style-type: none"> • Board of directors • finance staff • human resources staff • IT staff • managers • marketing personnel • owners • production staff • supervisors
<i>Marketing</i> may include:	<ul style="list-style-type: none"> • business-to-business marketing • direct marketing • ideas marketing • marketing of goods • public sector marketing • services marketing • telemarketing
<i>Non-marketing personnel</i> may include:	<ul style="list-style-type: none"> • advertising personnel • managers • public relations personnel • sales manager • sales team • staff • supervisors
<i>Resources</i> may include:	<ul style="list-style-type: none"> • financial • human • IT • physical • technical
<i>Marketing mix</i> may include:	<ul style="list-style-type: none"> • distribution • level of service • pricing • product or service variables such as:

RANGE STATEMENT

	<ul style="list-style-type: none"> • design • quality • range • safety features • technical features • promotion
--	--

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Business Development - Marketing
-------------------------	----------------------------------

Co-requisite units

Co-requisite units		

BSBOHS503B Assist in the design and development of OHS participative arrangements

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to assist in designing and developing effective participative arrangements as an integral part of systematic approaches to managing occupational health and safety (OHS). This process will result in stakeholders having real opportunities to participate in OHS processes.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to individuals with managerial responsibility for identifying, designing, developing and reviewing formal and informal processes to enable people to participate in OHS decision making. The unit also addresses influencing others from an OHS perspective and takes account of the responsibilities for managing OHS.</p> <p>This unit is underpinned by BSBOHS402B Contribute to the implementation of the OHS consultation process.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify the need for OHS participative arrangements	1.1. Review OHS legislation to identify legal requirements for <i>participative arrangements</i> 1.2. Identify <i>factors that may impact on the design of participative arrangements</i> 1.3. Review organisational policies and procedures to identify requirements and opportunities for OHS consultation and communication 1.4. Review effectiveness of existing workplace arrangements, in consultation with <i>stakeholders</i> , for OHS consultation and communication 1.5. Define information and consultation requirements, in consultation with stakeholders and <i>key personnel</i> , for specific roles and groups
2. Assist in the design of participative arrangements	2.1. Design processes, in consultation with stakeholders, for providing required OHS information and data 2.2. Design processes, in consultation with stakeholders, to enable individuals and groups to be consulted regarding workplace OHS issues and to have input into OHS decision making 2.3. Identify and document <i>training needs</i> to enable effective participation 2.4. Review recommendations for participative arrangements, in consultation with stakeholders, to ensure they meet legislative requirements and are realistic, practical and acceptable in the workplace
3. Assist in developing participative arrangements	3.1. Develop policies and procedures for participative arrangements 3.2. Identify key personnel in the introduction and maintenance of participative arrangements 3.3. Develop strategies for the delivery of training 3.4. Identify and document <i>resources</i> necessary to introduce and maintain participative arrangements
4. Support the implementation of participative arrangements	4.1. Determine priorities for action in consultation with stakeholders 4.2. Develop action plans with allocated responsibilities and time lines 4.3. Provide advice and support to key personnel 4.4. Monitor implementation, in consultation with stakeholders, to ensure that participatory arrangements are effective in providing information

ELEMENT	PERFORMANCE CRITERIA
	<p>and data to all groups and that they provide opportunity for participation in OHS decision making</p> <p>4.5. Make recommendations for adjustments to the implementation as required</p>
<p>5. Evaluate the design and development of participative arrangements</p>	<p>5.1. Design the <i>evaluation protocol</i> in consultation with stakeholders</p> <p>5.2. Develop a plan for collecting <i>information and data</i></p> <p>5.3. Analyse and evaluate information and data</p> <p>5.4. Make recommendations for improvement in the participatory arrangements as a result of the evaluation findings</p> <p>5.5. Provide a report to stakeholders and key personnel on the outcomes of the evaluation, and recommendations for further development and improvement</p> <p>5.6. Seek feedback from stakeholders and develop an action plan for ongoing improvements</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to:
 - identify areas for improvement
 - analyse relevant workplace information and data, and to make observations of workplace tasks and interactions between people, their activities, equipment, environment and systems
 - contribute to the assessment of resources needed to systematically manage OHS and, where appropriate, access resources
- planning skills to apply continuous improvement and action planning processes
- research skills to access relevant OHS information and data
- numeracy skills to carry out simple arithmetical calculations (e.g. % change), and to produce graphs of workplace information and data to identify trends and recognise limitations
- communication skills to:
 - conduct effective formal and informal meetings and to communicate effectively with personnel at all levels of the organisation, OHS specialists and, as required, emergency services personnel
 - prepare reports for a range of target groups including OHS committee, OHS representatives, managers and supervisors
 - use language and literacy skills appropriate to the workgroup and the task
- consultation and negotiation skills to develop plans, and to implement and monitor designated actions
- project management skills to achieve change in OHS matters
- organisational skills to manage own tasks within a timeframe
- information technology skills to access and enter internal and external information and data on OHS, and to use a range of communication media.

Required knowledge

- concept of common law duty of care
- difference between common law and statutory law
- ethics related to professional practice
- formal and informal communication and consultation processes and key personnel related to communication
- how the characteristics and composition of the workforce impact on risk and the systematic approach to managing OHS, for example:
 - communication skills
 - cultural background/workplace diversity

REQUIRED SKILLS AND KNOWLEDGE

- gender
- labour market changes
- language, literacy and numeracy
- structure and organisation of workforce e.g. part-time, casual and contract workers, shift rosters, geographical location
- workers with specific needs and limitations
- internal and external sources of OHS information and data
- key personnel, including identifying 'change agents', within workplace management structure
- organisational OHS policies and procedures
- language, literacy and cultural profile of the workgroup
- legislative requirements for OHS information and data, and consultation
- methods of providing evidence of compliance with OHS legislation
- organisational culture as it impacts on the workgroup
- principles of effective meetings including agendas, action planning, chair and secretarial duties, minutes and action items
- professional liability in relation to providing advice
- rights of OHS inspectors
- roles and responsibilities in relation to communication and consultation for OHS committees, OHS representatives, line management, employees and inspectors
- state/territory and commonwealth OHS legislation (acts, regulations, codes of practice, associated standards and guidance material) including prescriptive and performance approaches and links to other relevant legislation such as industrial relations, equal employment opportunity, workers compensation, rehabilitation
- structure and forms of legislation including regulations, codes of practice, associated standards and guidance material.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • design and development of a participative approach to the management of workplace OHS • knowledge of relevant OHS legislation (acts, regulations, codes of practice, associated standards and guidance material).
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to workplace documentation and personnel • reports from other parties consulted in designing, implementing, managing and reviewing processes • access to relevant legislation, standards and guidelines.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of written reports on the effectiveness of OHS participative arrangements • demonstration of techniques used to encourage participation in OHS in the workplace • direct questioning combined with review of portfolios of evidence and third party reports of on-the-job performance by the candidate • observation of performance in role plays • observation of presentations • oral or written questioning to assess knowledge of how the characteristics and composition of the workforce impact on risk and the systematic approach to managing OHS • review of policies and procedures developed for participative arrangements • evaluation of action plans • written examples of reports on participative arrangements implemented in the workplace.

EVIDENCE GUIDE	
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none">• BSBOHS402B Contribute to the implementation of the OHS consultation process• other OHS units.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Participative arrangements</i> are designed so that stakeholders are able to be involved in decision making that affects their health and safety. Participatory processes may include:</p>	<ul style="list-style-type: none"> • employee and supervisor involvement in OHS activities, such as inspections and audits • health and safety, and other representatives • OHS and other consultative/planning committees • OHS included in management, staff and employee meetings • procedures for reporting hazards, and raising and addressing OHS issues
<p><i>Factors that may impact on the design of participative arrangements</i> include:</p>	<ul style="list-style-type: none"> • language • shift work and rostering arrangements • timing of information and data provision • literacy and numeracy levels • workers with specific needs • workplace organisational structures (for example, size of organisation, geographic, hierarchical) • cultural diversity • management approach • workplace culture and approach to OHS by managers, supervisors and employees
<p><i>Stakeholders</i> include:</p>	<ul style="list-style-type: none"> • managers • supervisors • employees • health and safety, and other employee representatives • OHS committees
<p><i>Key personnel</i> include:</p>	<ul style="list-style-type: none"> • managers from other areas • people involved in OHS decision making or who are affected by OHS decisions
<p><i>Training needs</i> should be defined for:</p>	<ul style="list-style-type: none"> • managers • supervisors • health and safety representatives

RANGE STATEMENT	
	<ul style="list-style-type: none"> • OHS committees • other key personnel • employees generally
Resources include:	<ul style="list-style-type: none"> • financial requirements for implementation • personnel including time allocation • equipment • access to sources of information and data, such as: <ul style="list-style-type: none"> • guidance material to circulate to stakeholders and key personnel • OHS journals • websites
Evaluation protocol includes:	<ul style="list-style-type: none"> • criteria for evaluation • how the criteria will be measured • how the information and data will be collected • time period for collection of information and data
Information and data for evaluating participative arrangements may include:	<ul style="list-style-type: none"> • feedback from individuals and representatives • minutes of meetings • OHS management audits • questionnaires • workshops

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Regulation, Licensing and Risk - Occupational Health and Safety
-------------------------	---

Co-requisite units

Co-requisite units		

BSBPMG510A Manage projects

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to manage a straightforward project or a section of a larger project.</p> <p>This unit addresses the management of projects including the development of a project plan, administering and monitoring the project, finalising the project and reviewing the project to identify lessons learnt for application to future projects.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>The unit focuses on the application of project management skills and the requirement to meet time lines, quality standards, budgetary limits and other requirements set for the project.</p> <p>The unit does not apply to specialist project managers. For specialist project managers, the units of competency in the Project Management competency field will be applicable.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Define project	1.1. Access <i>project scope and other relevant documentation</i> 1.2. Define project <i>stakeholders</i> 1.3. Seek clarification from <i>delegating authority</i> of any issues related to project and <i>project parameters</i> 1.4. Identify limits of own responsibility and reporting requirements 1.5. Clarify relationship of project to other projects and to the organisation's objectives 1.6. Determine and access available resources to undertake project
2. Develop project plan	2.1. Develop <i>project plan</i> including timelines, work breakdown structure, role and responsibilities and other details of how the project will be managed in relation to the project parameters 2.2. Identify and access appropriate <i>project management tools</i> 2.3. Formulate risk management plan for project, including occupational health and safety (OHS) 2.4. Develop and approve project budget 2.5. Consult team members and take their views into account in planning the project 2.6. Finalise project plan and gain any necessary approvals to commence project according to documented plan
3. Administer and monitor project	3.1. Take action to ensure project team members are clear about their responsibilities and the project requirements 3.2. Provide <i>support for project team members</i> , especially with regard to specific needs, to ensure that the quality of the expected outcomes of the project and documented time lines are met 3.3. Establish and maintain <i>required record keeping systems</i> throughout the project 3.4. Implement and monitor plans for managing project finances, resources (human, physical and technical) and quality 3.5. Complete and forward project reports as required to stakeholders 3.6. Undertake <i>risk management</i> as required to ensure

ELEMENT	PERFORMANCE CRITERIA
	project outcomes are met 3.7. Achieve project deliverables
4. Finalise project	4.1. Complete financial record keeping associated with project and check for accuracy 4.2. Assign staff involved in project to new roles or reassign to previous roles 4.3. Complete project documentation and obtain any <i>necessary sign offs</i> for concluding project
5. Review project	5.1. Review project outcomes and processes against the project scope and plan 5.2. Involve team members in the project review 5.3. Document lessons learnt from the project and report within the organisation

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication and negotiation skills to work with team members and other stakeholders to maintain project schedules
- literacy skills to read, write and review a range of documentation
- planning and organising skills to develop, monitor and maintain implementation schedules
- numeracy skills to analyse data, and to compare time lines and promotional costs against budgets
- culturally appropriate communication skills to relate to people from diverse backgrounds and people with diverse abilities.

Required knowledge

- relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - environmental issues
 - OHS
- organisational structure, and lines of authority and communication within the organisation
- how the project relates to organisation's overall mission, goals, objectives and operations.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of a project plan • details of monitoring arrangement/s and evaluation of the project plan's efficacy to address time lines and budgets of project • knowledge of relevant legislation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to workplace project documentation.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of presentations • oral or written questioning to assess knowledge of how the project relates to the organisation's overall mission, goals, objectives and operations • review of project risk management plan and project plan • evaluation of project reports forwarded to stakeholders • analysis of documentation reviewing project outcomes and processes against the project scope and plan • evaluation of documentation outlining lessons learnt from the project.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other project management units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Project scope and other relevant documentation</i> may include:	<ul style="list-style-type: none"> • contract or other agreement • project brief • project plan or summary • other documents outlining expected outcomes of the project, inclusions and exclusions from project, timeframes for project, quality standards for project, project resources
<i>Stakeholders</i> may include:	<ul style="list-style-type: none"> • clients or customers (internal and external) • funding bodies • management, employees and relevant key personnel (internal and external) with special responsibilities • project sponsor
<i>Delegating authority</i> may include:	<ul style="list-style-type: none"> • customer or client • funding body • manager or management representative • project sponsor
<i>Project parameters</i> may include:	<ul style="list-style-type: none"> • finances for project • integration of project within organisation • legislative and quality standards • physical, human and technical resources available or required for project • procurement requirements associated with project • reporting requirements • risks associated with project, including OHS • scope of project • time lines
<i>Project management tools</i> may include:	<ul style="list-style-type: none"> • cost schedule control system • Critical Path Method • Gantt and bar charts • life cycle cost analysis • logistics support analysis

RANGE STATEMENT	
	<ul style="list-style-type: none"> • PERT charts • project management software • spreadsheets • technical resources required for the project, for example OHS management system tools
<i>Support for project team members</i> may include:	<ul style="list-style-type: none"> • additional physical, human and technical resources (within allocated budget) if and as required • encouragement • feedback • learning and development • regular project team meetings • supervision, mentoring and coaching
<i>Required record keeping systems</i> may include systems for:	<ul style="list-style-type: none"> • correspondence • financial data including costs, expenditure, income generated, purchases • project outcomes • quality data including any test results • recording of time spent on project and progress in completing project • samples, prototypes, models
<i>Risk management</i> may include:	<ul style="list-style-type: none"> • changing roles and responsibilities within project team • negotiating an extension of deadline, or redefining completion or quantities or quality of outcomes • outsourcing some aspects of the project • reducing costs • researching and applying more efficient methods for completing project tasks • seeking further resources to meet deadline • sharing of ideas to gain improvements to work undertaken within the project
<i>Necessary sign offs</i> may be required by:	<ul style="list-style-type: none"> • clients, customers • funding body • management • project sponsor

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Management
-------------------------	--

Co-requisite units

Co-requisite units		

BSBRES401A Analyse and present research information

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to gather, organise and present workplace information using available systems.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to individuals who are required to apply their broad knowledge of the work environment to analysis and research tasks. They may have responsibility to provide guidance or to delegate aspects of these tasks to others.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Gather and organise information	1.1. Gather and organise information in a format suitable for analysis, interpretation and dissemination in accordance with organisational requirements 1.2. Access information held by the organisation ensuring accuracy and relevance in line with established organisational requirements 1.3. Ensure that methods of collecting information are reliable and make efficient use of resources in accordance with organisational requirements 1.4. Identify research requirements for combining online research with non-electronic sources of information 1.5. Use business technology to access, organise and monitor information in accordance with organisational requirements 1.6. Update, modify, maintain and store information, in accordance with organisational requirements
2. Research and analyse information	2.1. Clearly define objectives of research ensuring consistency with organisational requirements 2.2. Ensure that data and research strategies used are valid and relevant to the requirements of the research and make efficient use of available resources 2.3. Identify key words and phrases for use as part of any online search strategy, including the use of Boolean operators and other search tools 2.4. Use reliable methods of data analysis that are suitable to research purposes 2.5. Ensure that assumptions and conclusions used in analyses are clear, justified, supported by evidence and consistent with research and business objectives
3. Present information	3.1. Present recommendations and issues in an appropriate format, style and structure using suitable business technology 3.2. Structure and format reports in a clear manner that conforms to organisational requirements 3.3. Report and distribute research findings in accordance with organisational requirements 3.4. Obtain feedback and comments on suitability and sufficiency of findings in accordance with organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to read, write and understand a variety of texts; and to edit and proofread documents to ensure clarity of meaning, accuracy and consistency of information
- problem-solving skills to deal with information which is contradictory, ambiguous, inconsistent or inadequate
- technology skills to select and use technology appropriate to a task
- research skills to identify and access information.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
 - ethical principles
 - codes of practice
 - privacy laws
 - occupational health and safety (OHS)
- organisational record keeping/filing systems, security procedures and safe recording practices
- organisational policies and procedures relating to distribution of workplace information, and legal and ethical obligations
- research processes and strategies to identify new sources (online and print) of information and to use them most efficiently and effectively.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • presenting information and data • maintaining and handling data and documents systematically • analysing and interpreting data to support organisational activities • knowledge of research processes and strategies to identify new sources of information.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • examples of research tasks and resources.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • analysis of responses to case studies and scenarios • demonstration of techniques • observation of presentations • review of documentation outlining recommendations and issues • review of reports outlining research findings.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • general administration units • IT use units • Governance units

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Information</i> may include:</p>	<ul style="list-style-type: none"> • demographic data • service delivery records • computer databases (library catalogue, customer records, subscription database, internet) • computer files (letters, memos and other documents) • correspondence (faxes, memos, letters, email) • financial figures • forms (insurance forms, membership forms) • information on training needs • invoices (from suppliers, to debtors) • marketing reports/plans/budgets • personnel records (personal details, salary rates) • production targets • sales records (monthly forecasts, targets achieved)
<p><i>Organisational requirements</i> may include:</p>	<ul style="list-style-type: none"> • anti-discrimination and related policy • business and performance plans • Code of Conduct/Code of Ethics • defined resource parameters • ethical standards • goals, objectives, plans, systems and processes • information protocols • legal and organisational policies, guidelines and requirements • management and accountability channels • OHS policies, procedures and programs • procedures for updating records • quality assurance and/or procedures manuals • security and confidentiality requirements
<p><i>Methods of collecting</i></p>	<ul style="list-style-type: none"> • checking research provided by others

RANGE STATEMENT	
information may include:	<ul style="list-style-type: none"> • checking written material including referrals and client files • individual research • information from other organisations • interviews with community members, colleagues/customers • observation and listening • previous file records • questioning (in person or indirect) • recruitment applications and other forms
Business technology may include:	<ul style="list-style-type: none"> • answering machine • computer • fax machine • photocopier • telephone
Objectives of research may include:	<ul style="list-style-type: none"> • comparative analysis • hypothesis testing • identification of trends • industry pricing policies • process mapping • situational diagnosis
Research strategies may include:	<ul style="list-style-type: none"> • data analysis • documentation reviews • focus groups • interviewing colleagues and clients • online searching • product sampling • subscription databases
Key words and phrases may include:	<ul style="list-style-type: none"> • American spellings when searching online • cultural or geographic terms • using different thesauri in different databases
Boolean operators may include:	<ul style="list-style-type: none"> • exclude - / NOT • include +/ AND • or • phrase searching " " / () • variations, depending on the resource being used
Methods of data analysis may include:	<ul style="list-style-type: none"> • data sampling • feedback on results • peer review

RANGE STATEMENT	
	<ul style="list-style-type: none"> • review of previous research • statistical analysis
Business objectives may include:	<ul style="list-style-type: none"> • community capacity building • community development • service provision • business planning • financial performance • flexibility, responsiveness • interpersonal communication • marketing and customer service • organisational values and behaviours • people management • work procedures and quality assurance manuals
Feedback may include:	<ul style="list-style-type: none"> • audit documentation and reports • comments from community, board members, clients and colleagues • customer satisfaction questionnaires • quality assurance data • returned goods

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Knowledge Management - Research
-------------------------	---------------------------------

Co-requisite units

Co-requisite units	

Co-requisite units		

BSBSMB301A Investigate micro business opportunities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop business ideas, and to investigate market needs and factors affecting potential markets.</p> <p>Specific legal requirements apply to the management of a micro business.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This work will be undertaken by individuals who are establishing or operating a micro business providing for self employment.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Describe business ideas	1.1. Gather information for <i>business ideas</i> from <i>appropriate sources</i> 1.2. List details of business ideas and opportunities 1.3. Research alternative business ideas in light of the resources available 1.4. Specify and list products and services to match business ideas 1.5. Identify and research potential <i>customer information</i> for business ideas 1.6. Identify and take into account financial, business and technical skills available when researching business opportunities
2. Identify market needs	2.1. Collect information regarding market size and potential from appropriate sources 2.2. Investigate market trends and developments to identify market needs relative to business ideas 2.3. Gather market information from <i>primary and secondary sources</i> to identify possible market needs in relation to business ideas 2.4. Identify <i>ethical and cultural requirements</i> of the market and their impact on business ideas 2.5. Identify <i>new and emerging markets</i> and document their features 2.6. Identify and organise information on expected market growth or decline and associated risk factors
3. Investigate factors affecting the market	3.1. Identify projected changes in population, economic activity and the labour force that may affect business ideas 3.2. Identify movements in prices and projected changes in availability of resources 3.3. Review <i>trends and developments</i> and identify their potential impact on business ideas

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify market trends and developments, and to assess their impact on products and services
- communication skills to request information from diverse sources
- lateral thinking skills to generate ideas for potential businesses
- literacy skills to interpret business and market information
- numeracy skills to analyse data to aid business/market research
- research skills to investigate market needs.

Required knowledge

- ethical and cultural requirements
- research methods and data collection tools
- sources of business and market information.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • thorough investigation of business opportunities and ideas • clearly identified products/services and customer information for each business idea • thorough collection and analysis of market information and associated factors relating to business ideas • knowledge of ethical and cultural requirements.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of establishing or running a micro business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence relating to the development of the candidate's own business idea • review of report on an existing micro or small business known to the candidate • oral or written questioning to assess knowledge of research methods and data collection tools • review of market information gathered to identify possible market needs in relation to business ideas • assessment of review of trends and developments and their potential impact on business ideas.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB302A Develop a micro business proposal.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Business ideas may be influenced by:

- amount and type of finance available
- cultural, family and/or community expectations
- expected financial viability
- finance required
- lifestyle sought
- number and type of competitors
- returns expected or required by owner
- skills of owner/operator

Appropriate sources may include:

- Aboriginal and cultural councils and incorporated bodies
- accountants
- Australian Bureau of Statistics
- business advisory services
- business brokers
- business consultants
- business incubators
- business mentors and peers
- current affairs
- databases
- financial institutions
- government agencies set up to provide and assist business development for example Indigenous Business Australia (IBA), Business Entry Point (www.business.gov.au)
- industry/trade associations
- internet
- lawyers and providers of legal advice
 - local councils
- friends, family and community
- market research publications
- national and international publications
- online gateways
- role models and other successful businesses

RANGE STATEMENT	
	<ul style="list-style-type: none"> • training providers
<i>Customer information</i> may include:	<ul style="list-style-type: none"> • customer characteristics • marketing issues to meet needs • specialised needs of customers
<i>Primary sources</i> may include:	<ul style="list-style-type: none"> • group interviews • market testing a segment of the market • interviews (face-to-face and telephone) • observation • questionnaires • samples • surveys
<i>Secondary sources</i> may include:	<ul style="list-style-type: none"> • chambers of commerce data • data held by research and industry specific organisations • polls published by advertising and media companies • published government statistics • university databases
<i>Ethical and cultural requirements</i> may include:	<ul style="list-style-type: none"> • codes of practice • cultural expectations and influences • ethical principles <ul style="list-style-type: none"> • government policies and guidelines • societal expectations • social responsibilities, for example protection of children, environmental issues
<i>New and emerging markets</i> may include:	<ul style="list-style-type: none"> • e-commerce • export market • niche or segment of the market not currently penetrated
<i>Trends and developments</i> may include:	<ul style="list-style-type: none"> • changes in technology • demographic trends • ecological/environmental trends • economic trends (local, regional, national, international) • government activities, for example interest rates, deregulation • industrial trends • social and cultural factors

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Small and Micro Business
-------------------------	--

Co-requisite units

Co-requisite units		

BSBSMB401A Establish legal and risk management requirements of small business

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to identify and comply with the regulatory, legal, taxation and insurance requirements, and risk management needs of small business.</p> <p>Specific legal requirements apply to the management of a small business.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>The unit is suitable for existing micro and small businesses or setting up a new business or a department in a larger organisation.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and implement business legal requirements	1.1. Identify and research possible <i>options for the business legal structure</i> using <i>appropriate sources</i> 1.2. Determine <i>legislation and regulatory requirements</i> affecting the operations of the business under its chosen structure 1.3. Develop and implement procedures to ensure full compliance with relevant legislation and regulatory requirements
2. Comply with legislation, codes and regulatory requirements	2.1. Establish systems to ensure the <i>legal rights and responsibilities</i> of the business are identified and the business is adequately protected, specifically in relation to <i>occupational health and safety (OHS)</i> , business registration and environmental requirements 2.2. Identify <i>taxation principles and requirements</i> relative to the business and follow procedures to ensure compliance 2.3. Identify and carefully maintain <i>legal documents</i> and maintain and update relevant <i>records</i> to ensure their ongoing security and accessibility 2.4. Monitor the provision of products and services of the business to protect legal rights and to comply with legal responsibilities 2.5. Conduct investigations to identify areas of non-compliance with legal and regulatory requirements and take corrective action where necessary
3. Negotiate and arrange contracts	3.1. Seek legal advice on contractual rights and obligations, if required, to clarify business liabilities 3.2. Investigate and assess potential products/services to determine <i>procurement rights</i> and to ensure protection of business interests where applicable 3.3. Negotiate and secure contractual procurement rights for goods and services including <i>contracts with relevant people</i> , as required, in accordance with the business plan 3.4. Identify <i>insurance requirements</i> and acquire adequate cover 3.5. Identify options for leasing/ownership of business premises and complete contractual arrangements in accordance with the business plan

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication, reporting, record keeping and consultation skills to operate the business
- literacy skills to interpret legal requirements, to develop policies and procedures and to analyse compliance information
- research skills to investigate legal structures, and taxation and insurance requirements
- time management skills to prioritise tasks and to meet key dates.

Required knowledge

- business registration and licensing requirements
- commonwealth, state/territory and local government legislative requirements relating to business operation, especially in regard to OHS and environmental issues, equal employment opportunity, industrial relations, anti-discrimination, taxation
- creation and termination of relevant legal contracts
- cultural differences and legal implications
- duty of care imposed by Law of Torts
- legal rights and obligations of alternative ownership structures
- record keeping to meet minimum legal and taxation requirements
- relevant consumer legislation
- relevant industry codes of practice
- relevant insurance requirements and products.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • implementation of a systematic approach to identifying, managing and meeting legal and business requirements within culturally appropriate contexts • interpreting compliance data and formulating appropriate action • knowledge of relevant legislation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of establishing or running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence including contracts negotiated and arranged • oral or written questioning to assess knowledge of relevant consumer legislation • review of procedures developed and implemented to ensure full compliance with relevant legislation and regulatory requirements • review of insurance cover acquired.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB402A Plan small business finances • BSBSMB404A Undertake small business planning.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Options for the business legal structure</i> may include:</p>	<ul style="list-style-type: none"> • company • cooperative • corporation • government owned enterprise • partnership • profit or not-for-profit legal structure • sole trader • trust
<p><i>Options for the business legal structure</i> may be influenced by:</p>	<ul style="list-style-type: none"> • confidentiality • contractual requirements • family/community/cultural expectations • ownership transfer • partnership considerations • preferences of owners/stakeholders • protection of stakeholders and assets • requirements of financial backers • superannuation • taxation
<p><i>Appropriate sources</i> may include:</p>	<ul style="list-style-type: none"> • business advisers • financial planners • government agencies • industry/trade associations • mentors • professional advisers (e.g. solicitors, accountants)
<p><i>Legislation and regulatory requirements</i> may include:</p>	<ul style="list-style-type: none"> • local, state/territory, commonwealth and international legislation, regulations and codes of practice affecting business operations such as: <ul style="list-style-type: none"> • relevant Acts and regulations • industry and OHS codes of practice • business registrations and licences

RANGE STATEMENT	
	<ul style="list-style-type: none"> • planning and other permissions • environmental legislation • industrial law, agency law, property law, consumer legislation and standards, Torts Law and duty of care • equal employment opportunity (EEO) and anti-discrimination legislation, anti-competition regulations
<i>Legal rights and responsibilities</i> may include:	<ul style="list-style-type: none"> • culturally appropriate processes and protocols • marketing the business in accordance with consumer legislation • obligations imposed by choice of business structure • operating the business with a duty of care (Law of Torts)
<i>Occupational health and safety and requirements</i> must include:	<ul style="list-style-type: none"> • complying with relevant OHS codes of practice • establishing and maintaining a system for managing OHS • establishing hazard management arrangements to assess and control the risks associated with workplace hazards including development of written safe operating procedures • establishing OHS record keeping arrangements in accordance with regulatory requirements • OHS duty of care responsibilities • registering with state/territory workers compensation authority if applicable
<i>Taxation principles and requirements</i> may include:	<ul style="list-style-type: none"> • relevant taxation requirements/obligations for business • tax file number, Australian Business number, goods and services tax registration, PAYG and withholding arrangements
<i>Legal documents</i> may include:	<ul style="list-style-type: none"> • appropriate software for financial records • certificate of incorporation • constitution documents • franchise agreements and financial documentation • partnership agreements • statutory books for companies (register of members, register of directors and minute books)

RANGE STATEMENT	
Records may include:	<ul style="list-style-type: none"> • environmental • financial • OHS • personnel • taxation
OHS records may include:	<ul style="list-style-type: none"> • accident reports and investigations • first aid and medical • hazardous substances register • instruction and training • manufacturers' and suppliers' information • material safety data sheets • OHS audits and inspections • plant maintenance and testing • workers compensation and rehabilitation
Procurement rights to products and services may include:	<ul style="list-style-type: none"> • any form of licensing • royalties, copyright, patents, trademarks, registered design and applications, intellectual property, software licenses, franchises, agencies
Contracts with relevant people may include:	<ul style="list-style-type: none"> • any person with whom the business has, or seeks to have, a performance-based relationship • owners, suppliers, employees, landlords, agents, distributors, customers
Insurance requirements may include:	<ul style="list-style-type: none"> • comprehensive insurance for vehicles/property • professional indemnity insurance • public liability insurance • third party insurance on motor vehicles • workers compensation • other insurance cover as required by state/territory or commonwealth legislation, contractual obligations or as recommended for the industry/type of business

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Small and Micro Business
-------------------------	--

Co-requisite units

Co-requisite units		

BSBSMB402A Plan small business finances

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop a financial plan to support business viability.</p> <p>Specific legal requirements apply to the management of a small business.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>The unit is suitable for existing micro and small businesses or a department in a larger organisation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify costs, calculate prices and prepare profit statement	1.1. Identify and document <i>costs</i> associated with the production and delivery of the business' products/services 1.2. Calculate prices based on costs and profit margin, as an hourly charge out rate for labour or unit price for products 1.3. Calculate break-even sales point to establish business viability and profit margins 1.4. Identify appropriate <i>pricing strategies</i> in relation to market conditions to meet business profit targets 1.5. Prepare projected profit statement to supplement the business plan
2. Develop a FINANCIAL PLAN	2.1. Set <i>profit targets/goals</i> to reflect owner's desired returns 2.2. Identify working capital requirements necessary to attain profit projections 2.3. Identify non-current asset requirements and consider alternative asset management strategies 2.4. Prepare <i>cash flow projections</i> to enable business operation in accordance with business plan and <i>legal requirements</i> 2.5. Identify capital investment requirements accurately for each operational period 2.6. Select budget targets to enable ongoing monitoring of financial performance
3. Acquire finance	3.1. Identify start-up and ongoing financial requirements according to financial plan/budget 3.2. Identify <i>sources of finance</i> , including potential <i>financial backers</i> , to provide required liquidity for the business to complement business goals and objectives 3.3. Investigate cost of securing finance on optimal terms 3.4. Identify strategies to obtain finance as required to ensure financial viability of the business

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to interpret financial data
- communication skills to secure finance
- literacy skills to develop a financial plan and to interpret legal requirements and financial reports
- numeracy skills to calculate costs, prices, profit and other financial information
- research skills to identify costs and sources of finance.

Required knowledge

- break-even analysis
- costing for the business, including margin/mark-up, hourly charge out rates and unit costs
- financial decision making relevant to the business
- methods and relative costs of obtaining finance
- principles for preparation of balance sheets
- principles for preparation of cash flow forecasts
- principles for preparation of profit and loss statements
- purpose of financial reports
- relevant accounting terminology
- working capital cycles.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> development of a financial plan which identifies the financial requirements of the business, including profit targets, cash flow projections and strategies for the acquisition of finance knowledge of financial decision making relevant to the business.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to relevant documentation candidate's individual circumstances and work in the context of establishing or running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> portfolio of evidence including financial plan and records review of projected profit statement prepared to supplement the business plan review of cash flow projections oral or written questioning to assess knowledge of principles for preparation of cash flow forecasts.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> BSBSMB401A Establish legal and risk management requirements of small business BSBSMB404A Undertake small business planning BSBSMB405A Monitor and manage small business operations BSBSMB406A Manage small business finances.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Costs may include:

- direct/indirect costs
- fixed, variable, semi-variable costs
- overheads and employee costs

Pricing strategies may include:

- competitor analysis
- cost/volume/profit analysis
- cost factors
- cost plus pricing
- demand-based pricing
- discounting
- market conditions
- penetration pricing
- perceived value
- product mix
- skimming

Financial plan may include:

- analysis of sales by product/service, identifying where they were sold and to whom
- cash flow estimates for each forward period
- current financial state of the enterprise (or owner/operator)
- estimates of profit and loss projections for each forward period
- financial performance to date (if applicable)
- likely return on investment
- monthly, quarterly or annual returns
- non-recurrent assets calculations
- profit, turnover, capital and equity targets
- projected profit targets, pricing strategies, margins
- projections of likely financial results (budgeting)
- projections, which may vary depending on the importance of such information and the stage in the life of the business
- resources required to implement the proposed marketing and production strategies (staff,

RANGE STATEMENT	
	<ul style="list-style-type: none"> materials, plant and equipment) • review of financial inputs required (sources and forms of finance) • risks and measures to manage or minimise risks • working, fixed, debt and equity capital • working in conjunction with external consultants e.g. investment analysts, accountants, financiers
<i>Profit targets/goals</i> may include:	<ul style="list-style-type: none"> • break-even point • cost of goods/services sold • gross profit/net profit • desired actual/notional salary for owners/managers • desired return on investment • sales turnover/gross fees or income
<i>Cash flow projections</i> may include:	<ul style="list-style-type: none"> • anticipated payments • anticipated receipts • customer credit policy/debt recovery • taxation provisions
<i>Legal requirements</i> may include:	<ul style="list-style-type: none"> • contractual arrangements (partnership agreements, trust deeds) • corporations law • industrial law (for payroll records) • taxation law
<i>Sources of finance</i> may include:	<ul style="list-style-type: none"> • personal, financial institutions, trade/industry sources • government sources, for example commonwealth and state/territory governments which provide various forms of technical and financial assistance including direct cash grants, loans, subsidies, tax concessions, and professional and technical advice
<i>Financial backers</i> may include:	<ul style="list-style-type: none"> • financiers/banks/lending institutions • leasing and hire purchase financiers • providers of venture capital • shareholders/partners/owners/family/friends

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Small and Micro Business
-------------------------	--

Co-requisite units

Co-requisite units		

BSBSMB403A Market the small business

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to develop and implement marketing strategies, and to monitor and improve market performance.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>This unit is suitable for micro and small businesses or a department in a larger organisation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop marketing strategies	1.1. Analyse the business and its key products or services to determine the focus of marketing activities, in accordance with the objectives of the business plan 1.2. Evaluate the customer base and target market for the small business as a basis for the marketing objectives and strategies 1.3. Determine marketing objectives and strategies that are ethically and culturally appropriate, in consultation with relevant people and in accordance with the business plan
2. Determine a marketing mix for the business	2.1. Balance product mix, volumes and pricing to optimise sales and profit 2.2. Evaluate the costs and benefits of using different distribution channels and/or providing different levels of customer service and consider the results in determining the marketing mix 2.3. Determine promotional activities to suit the target market 2.4. Consider customer needs and preferences in determining the marketing mix 2.5. Determine the marketing mix according to market and business needs
3. Implement marketing strategies	3.1. Brief persons involved in the marketing effort on their roles and responsibilities, to ensure the success of marketing strategies 3.2. Plan and implement promotional activities , in accordance with marketing objectives and budgetary requirements
4. Monitor and improve marketing performance	4.1. Monitor marketing activities and evaluate business performance according to the objectives and targets of the business plan 4.2. Analyse performance gaps and take corrective action or set new targets 4.3. Encourage all relevant people to propose ways to improve marketing performance 4.4. Seek and analyse customer reaction to all aspects of the marketing mix, using culturally appropriate processes, to improve targeting and outcomes 4.5. Conduct ongoing research of customer requirements to identify opportunities for change and

ELEMENT	PERFORMANCE CRITERIA
	improvement 4.6. Monitor and investigate changes in the market for new opportunities to aid business development

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to question, clarify and report
- literacy and numeracy skills to research information, to analyse data and to interpret market data.

Required knowledge

- industry market trends
- methods of analysing costs and benefits of marketing strategies
- methods of developing marketing objectives and marketing mix
- methods of monitoring customer satisfaction
- relevant market analysis and research
- relevant marketing concepts and methods.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • developing a marketing strategy and choosing a marketing mix for the small business that are culturally appropriate and that complement the business plan • implementing and monitoring the marketing strategy/plan to optimise the chances of small business success • knowledge of relevant marketing concepts and methods.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence including marketing strategy and monitoring of marketing performance • oral or written questioning to assess knowledge of industry market trends • review of analysis of performance gaps and corrective action taken or new targets set • review of promotional activities implemented.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB404A Undertake small business planning.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Marketing objectives and strategies</i> may include:</p>	<ul style="list-style-type: none"> • achieving lower costs of production and distribution than competitors • creating a very different product line or service so that the business becomes a class leader in the industry • distribution • pricing, presentation and display of products/services • product design and packaging • product range and mix • promotion and advertising • pursuing cost leadership and/or product differentiation within a specialist market segment
<p><i>Relevant people</i> may include:</p>	<ul style="list-style-type: none"> • accountant or other specialist services • family members, work team members, sub-contractors, community members • franchise agency • financial backers, clients • owner/operator, partners, directors, shareholders • regulatory bodies • trade or industry associations
<p><i>Distribution channels</i> may include:</p>	<ul style="list-style-type: none"> • dealer, re-seller, franchisee • distributor, delivery service, mail order, telesales • self-access, wholesale, retail
<p><i>Levels of customer service</i> may include:</p>	<ul style="list-style-type: none"> • after sales service • one-on-one personal service • sales assistance for problems/queries only
<p><i>Marketing mix</i> may include:</p>	<ul style="list-style-type: none"> • distribution • level of service • pricing

RANGE STATEMENT	
	<ul style="list-style-type: none"> • promotion • quality, range • safety features • technical features, design
<i>Promotional activities</i> may include:	<ul style="list-style-type: none"> • advertising in national, suburban or local newspapers • advertising on radio or television • canvassing • development of networks and strategic alliances • display posters • exhibitions, in-store promotions • involvement in community projects • mail drops • professional/industry journals • sponsorship • staff development programs to enhance customer service orientation • website • word of mouth, referral, testimonials
<i>Performance gaps</i> may include:	<ul style="list-style-type: none"> • over achievement of performance targets • under achievement of performance targets
<i>Customer reaction</i> may be determined through:	<ul style="list-style-type: none"> • customer meetings, focus groups • identification of new business opportunities • informal discussion • sales to contact ratio • survey/other feedback mechanisms • trend analysis

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Small and Micro Business
-------------------------	--

Co-requisite units

Co-requisite units		

BSBSMB404A Undertake small business planning

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to research and develop an integrated business plan for achieving business goals and objectives.</p> <p>Specific legal requirements apply to the management of a small business.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>This unit is suitable for micro and small businesses or a department in a larger organisation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify elements of the business plan	1.1. Identify purpose of the <i>business plan</i> 1.2. Identify and review the essential components of the business plan 1.3. Identify and document <i>business goals and objectives</i> as a basis for measuring business performance
2. Develop a business plan	2.1. Research resources, legal and compliance requirements, specifically in relation to <i>occupational health and safety (OHS)</i> , in accordance with business goals and objectives 2.2. Research market needs, and market size and potential 2.3. Identify sources and costs of finance, from the <i>financial plan</i> , to provide required liquidity and profitability for the business 2.4. Identify methods, from the <i>marketing strategies</i> , to promote the market exposure of the business 2.5. Identify methods/means of production/operation from the <i>production/operations plan</i> to conform with business goals and objectives 2.6. Identify <i>staffing requirements</i> to effectively produce/deliver products/services 2.7. Identify <i>specialist services</i> and sources of advice, where required, and cost in accordance with resources available
3. Develop strategies for minimising risks	3.1. Identify specific interests and objectives of <i>relevant people</i> and seek and confirm their support of the planned business direction 3.2. Identify and develop <i>risk management strategies</i> according to business goals and objectives, and relevant legal requirements 3.3. Develop <i>contingency plan</i> to address possible areas of non-conformance with the plan

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to assess business performance
- literacy skills to enable interpretation of business information
- numeracy skills to analyse data.

Required knowledge

- commonwealth, state/territory and local government legislative requirements relating to business operation, especially in regard to OHS and environmental issues, equal employment opportunity, industrial relations and anti-discrimination
- methods of evaluation
- OHS responsibilities and procedures for identifying hazards relevant to the business
- planning processes
- preparation of a business plan
- principles of risk management relevant to business planning
- reasons for and benefits of, business planning
- relevant industry codes of practice
- setting goals and objectives
- types of business planning - feasibility studies; strategic, operational, financial and marketing planning.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development of a business plan which provides for finance, marketing and provision of products/services to facilitate the business goals and objectives • identification of and planning for, OHS and duty of care responsibilities • development of risk management strategies • knowledge of relevant legislation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence including a business plan and risk management strategies • oral or written questioning to assess knowledge of OHS responsibilities and procedures for identifying hazards relevant to the business • demonstration of practical skills • review of documented business goals and objectives • review of contingency plans developed to address possible areas of non-conformance with the business plan.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB401A Establish legal and risk management requirements of small business • BSBSMB402A Plan small business finances • BSBSMB403A Market the small business.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Business plan may include:

- business opportunities, which may be influenced by:
 - amount and types of finance available
 - expected financial viability
 - skills of operator
- details of ownership/management
- finance, expenditure statement, balance sheet and cash flow forecast, projections for the initial years of operation assumptions underlying the business plan, expected level of inflation and taxation, expected trend of interest rate, capital expenditure and its timing, stock turnover, debtors collection period, creditor payment period, return on investment
- level of risk involved, risk assessment and management
- market focus of the business
- marketing requirements
- need to raise finance and requirements of lenders
- organisation/operational arrangements
- proposed size and scale of the business
- recognition of any seasonal or cyclical (time-based) elements which are crucial to the success of the business
- resources required and available
- sources of funding
- specialist services and sources of advice that may be required
- staffing
- stages in the business development

Business goals and objectives may include:

- customer needs/marketing projections
- family or community benefits

RANGE STATEMENT	
	<ul style="list-style-type: none"> • financial projections • goals, objectives, plans, systems and processes • lifestyle issues • market focus of the business • proposed size and scale of the business • short-, medium- or long-term goals • social responsibility
<i>Occupational health and safety issues</i> must include:	<ul style="list-style-type: none"> • identification of specific hazard issues such as occupational violence, security, manual handling, equipment and hazardous substances • management of the organisation and operation of OHS as part of the business plan • procedures for managing hazards in the workplace (identify, assess and control) • provisions for ensuring safety of members of the public and contractors visiting the premises/worksite
<i>Financial plan</i> may include:	<ul style="list-style-type: none"> • analysis of sales by product/service, identifying where they were sold and to whom • cash flow estimates for each forward period • current financial state of the enterprise (or owner/operator) • estimates of profit and loss projections for each forward period • financial performance to date (if applicable) • likely return on investment • monthly, quarterly or annual returns • non-recurrent assets calculations • profit, turnover, capital and equity targets • projected profit targets, pricing strategies, margins • projections of likely financial results (budgeting) • projections, which may vary depending on the importance of such information and the stage in the life of the business • resources required to implement the proposed marketing and production strategies (staff, materials, plant and equipment) • review of financial inputs required (sources

RANGE STATEMENT	
	<p>and forms of finance)</p> <ul style="list-style-type: none"> • risks and measures to manage or minimise risks • working, fixed, debt and equity capital
<i>Marketing strategies</i> may include:	<ul style="list-style-type: none"> • achieving lower costs of production and distribution than competitors • creating a very different product line or service so that the business becomes a class leader in the industry • distribution • pricing, presentation and display of products/services • product design and packaging • product range and mix • promotion and advertising • pursuing cost leadership and/or product differentiation within a specialist market segment
<i>Production/operations plan</i> may include:	<ul style="list-style-type: none"> • customer requirements, market expectations, budgetary constraints • industrial relations climate and quality assurance considerations • means of supply and distribution • operational targets and action plan, which may include short-, medium- or long-term goals • options for production, delivery, technical and customer service and support
<i>Staffing requirements</i> may include:	<ul style="list-style-type: none"> • full-time, part-time staff, permanent, temporary or casual staff • owner/operator • sub-contractors or external advisers/consultants
<i>Specialist services</i> may include:	<ul style="list-style-type: none"> • accountants • business advisors and consultants • business brokers • contractors • government agencies • industry/trade associations • lawyers and providers of legal advice • mentors

RANGE STATEMENT	
	<ul style="list-style-type: none"> • online gateways
<i>Relevant people</i> may include:	<ul style="list-style-type: none"> • clients • family members • franchise agency • owner/operator, partners, financial backers • regulatory bodies • suppliers • trade or industry associations
<i>Risk management strategies</i> may include:	<ul style="list-style-type: none"> • breach of contract, product liability • knowledge management • measures to manage risk including professional indemnity, securing appropriate insurance to cover loss of earnings through sickness/accidents, drought, flood, fire, theft • security systems to provide physical security of premises, plant, equipment, goods and services • security of intellectual property
<i>Risk management strategies</i> must include:	<ul style="list-style-type: none"> • OHS requirements
<i>Contingency plan</i> may include:	<ul style="list-style-type: none"> • disturbances to cash flow, supply and/or distribution • sickness or personal considerations

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Small and Micro Business
-------------------------	--

Co-requisite units

Co-requisite units		

BSBSMB405B Monitor and manage small business operations

Modification History

Release	Comments
Release 1	<p>This version first released with <i>BSB07 Business Training Package version 6.0</i></p> <p>Revised unit. Required knowledge and Range Statement changed to include environmentally sustainable practices</p> <p>Replaces BSBSMB405A Monitor and manage small business operations</p>

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to operate a small business and to implement a business plan. The strategies involve monitoring, managing and reviewing operational procedures.
Specific legal requirements apply to the management of a small business.

Application of the Unit

This work is undertaken by individuals who operate a small business.
The unit is suitable for existing micro and small businesses or a department in a larger organisation.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Element	Performance Criteria
<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</i>

Elements and Performance Criteria

1. Develop <i>operational strategies and procedures</i>	<p>1.1 Develop an action plan to provide a clear and coherent direction, in accordance with the <i>business goals and objectives</i></p> <p>1.2 Identify <i>occupational health and safety (OHS) and environmental issues</i> and implement strategies to minimise risk factors</p> <p>1.3 Develop a <i>quality system</i> for the business in line with industry standards, compliance requirements and cultural criteria</p> <p>1.4 Develop performance measures and <i>operational targets</i> to conform with the business plan</p> <p>1.5 Develop strategies for innovation, including the utilisation of existing, new or emerging technologies, where practicable, to optimise business performance</p>
2. Implement operational strategies and procedures	<p>2.1 Implement systems and key performance indicators/targets to monitor business performance and customer satisfaction</p> <p>2.2 Implement systems to control stock, expenditure/cost, wastage/shrinkage and risks to health and safety in accordance with the business plan</p> <p>2.3 Maintain staffing requirements, where applicable, within budget to maximise productivity</p> <p>2.4 Carry out the provision of goods/services in accordance with established legal, ethical cultural and <i>technical standards</i></p> <p>2.5 Provide goods/services in accordance with time, cost and quality specifications, and customer requirements</p> <p>2.6 Apply quality procedures to address product/service and customer requirements</p>
3. Monitor business performance	<p>3.1 Regularly monitor/review the achievement of operational targets to ensure optimum business performance, in accordance with the business plan goals and objectives</p> <p>3.2 Review systems and structures, with a view to more effectively supporting business performance</p> <p>3.3 Investigate and analyse operating problems to establish causes and implement changes as required as part of the business quality system</p> <p>3.4 Amend operational policies and procedures to incorporate corrective action</p>
4. Review business operations	<p>4.1 Review and adjust business plan, as required, to maintain business viability, in accordance with business goals and objectives</p>

	<p>4.2 Clearly record proposed changes to aid future planning and evaluation</p> <p>4.3 Undertake ongoing research into new business opportunities and adjust business goals and objectives as new business opportunities arise</p>
--	---

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to develop criteria and targets for the business plan
- communication skills to question, clarify and report
- literacy skills to interpret legal requirements, company policies and procedures
- numeracy skills to manage performance information and to control the finances
- technology skills to use relevant business equipment.

Required knowledge

- methods for developing and maintaining networks
- methods for implementing operation and revenue control systems
- methods for monitoring performance and implementing improvements
- OHS responsibilities and procedures for managing hazards
- principles of risk management relevant to the business, including risk assessment
- quality system principles and methods
- relevant industry codes of practice
- relevant marketing, sales and financial concepts
- relevant performance measures
- role of innovation
- systems to manage staff, stock, expenditure, services and customer service
- environmentally sustainable business practice and operation
- technical or specialist skills relevant to the business operation.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • developing strategies and procedures to successfully manage the operation of the business • making appropriate adjustments to the business operations as required • knowledge of quality system principles and methods.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence including operational strategies and procedures • oral or written questioning to assess knowledge of principles of risk management relevant to the business, including risk assessment • review of analysis of operating problems (establishing causes and implementing changes as required as part of the business quality system) • review of records proposing changes to the business operations.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB406A Manage small business finances • BSBSMB407A Manage a small team.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Operational strategies and procedures</i> may be determined by:</p>	<ul style="list-style-type: none"> • business premises (size, location, layout) • financial control systems and procedures • management and administrative systems and procedures • methods/techniques/technology • physical and natural resources • plant and equipment , including OHS requirements • premises, plant and equipment, which may be new or previously owned • purchase (sole or shared ownership) or leasing • raw materials • requirements, which may be one-off requirements or recurrent requirements (such as equipment maintenance) specific to the nature of the business • technology • environmentally sustainable principles of business operation • use of existing, new and emerging technologies including e-commerce.
<p><i>Business goals and objectives</i> may include:</p>	<ul style="list-style-type: none"> • customer needs/marketing projections • family or community benefits • financial projections • goals, objectives, plans, systems and processes • lifestyle issues • proposed size and scale of the business, market focus of the business • short-, medium- or long-term goals • social responsibility.
<p><i>Occupational health and safety and environmental issues</i> must include:</p>	<ul style="list-style-type: none"> • controls, which may include instructions to workplace personnel concerning site hazards and controls, material safety data sheets, use of personal protective equipment, vehicle access, signs and barricades, traffic control, outside contractors • establishment and maintenance of procedures for assessing and controlling risks • establishment and maintenance of procedures for

	<ul style="list-style-type: none"> identifying risks to health and safety • environmentally sustainable purchase and supply of goods and services • waste and by-products.
<i>Quality system</i> may include:	<ul style="list-style-type: none"> • manual or computer quality control systems • quality assurance/management approaches • random inspections and assessments of goods and services against predetermined standards • random inspections and assessments of processes against predetermined standards • random sampling and follow-up of customers.
<i>Operational targets</i> may include:	<ul style="list-style-type: none"> • external targets, which may relate to market share and positioning and may involve exploring new markets, building national or international trade links • internal targets, which may relate to size, quality, quantity and diversity, wages to sales, sales to area/stock levels/stock turnover/average debtor payment periods and levels • staffing level and skills mix • targets, which may be short-, medium- or long-term.
<i>Technical standards</i> may include:	<ul style="list-style-type: none"> • current and generally agreed descriptions of what the product/service is, how it should be produced/delivered and the environmental sustainability, quality, safety, efficiency or other measures to determine the activity is done effectively.

Unit Sector(s)

Management and Leadership – Small and Micro Business

Custom Content Section

Not applicable.

BSBSMB406A Manage small business finances

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to implement, monitor and review strategies for the ongoing management of a small business's finances. It also includes day to day financial management of the small business.</p> <p>Specific legal requirements apply to the management of a small business.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>The unit is suitable for existing micro and small businesses or a department in a larger organisation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Implement financial plan	<p>1.1. Identify financial information requirements and obtain specialist services, as required, to profitably operate and extend the business in accordance with the business plan</p> <p>1.2. Produce financial budgets/projections, including cash flow estimates, as required for each forward period, and distribute to relevant people in accordance with legal requirements</p> <p>1.3. Negotiate, secure and manage business capital to best enable implementation of the business plan and to meet the requirements of financial backers</p> <p>1.4. Develop and maintain strategies to enable adequate financial provision for taxation in accordance with legal requirements</p> <p>1.5. Develop, monitor and maintain client credit policies, including contingencies for debtors in default, to maximise cash flow</p> <p>1.6. Select key performance indicators to enable ongoing monitoring of financial performance</p> <p>1.7. Record and communicate financial procedures to relevant people to facilitate implementation of the business plan</p>
2. Monitor financial performance	<p>2.1. Regularly monitor and report on financial performance targets and analyse data to establish the extent to which the financial plan has been met</p> <p>2.2. Monitor marketing and operational strategies for their effects on the financial plan</p> <p>2.3. Calculate and evaluate financial ratios according to own/industry benchmarks</p> <p>2.4. Assess financial plan to determine whether variations or alternative plans are needed, and change as required</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to interpret financial data
- communication skills to negotiate capital and to report on performance
- literacy skills to interpret legal requirements and financial reports
- numeracy skills to calculate costs, prices, profit and other financial information.

Required knowledge

The following knowledge must be assessed as part of this unit:

- benchmarking
- financial decision making relevant to the business
- financial indicators
- purpose of financial reports
- preparation and interpretation of budget/actual reports
- principles for preparation of balance sheets and their interpretation
- principles for preparation of profit and loss statements and their interpretation
- stock records/stock control relevant to the business.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • development, implementation and review of strategies for the ongoing management of finance • maintenance of day-to-day financial management of the business as well as implementation of broad financial strategies • knowledge of purpose of financial reports.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to relevant documentation • candidate's individual circumstances and work in the context of establishing or running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • portfolio of evidence including financial reports • preparation and review of financial ratios • review of cash flow projections • analysis of development, monitoring and maintenance of client credit policies • oral or written questioning to assess knowledge of principles for preparation of balance sheets and their interpretation.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBSMB402A Plan small business finances • BSBSMB405A Monitor and manage small business operations.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Financial plan may include:

- analysis of sales by product/service, identifying where they were sold and to whom
- cash flow estimates for each forward period
- current financial state of the enterprise (or owner/operator)
- estimates of profit and loss projections for each forward period
- financial performance to date (if applicable)
- likely return on investment
- monthly, quarterly or annual returns
- non-recurrent assets calculations
- profit, turnover, capital and equity targets
- projected profit targets, pricing strategies, margins
- projections of likely financial results (budgeting)
- projections, which may vary depending on the importance of such information and the stage in the life of the business
- resources required to implement the proposed marketing and production strategies (staff, materials, plant and equipment)
- review of financial inputs required (sources and forms of finance)
- risks and measures to manage or minimise risks
- working, fixed, debt and equity capital
- working in conjunction with external consultants e.g. investment analysts, accountants, financiers

Financial information may include:

- accrual of staff leave/entitlements
- asset management strategies which may include:
 - owning, leasing, sharing, syndicating
 - maintaining and deploying assets
- asset registers
- balance sheets
- bookkeeping/accounting/stock/job costing records

RANGE STATEMENT	
	<ul style="list-style-type: none"> • business activity statements • business capital • cash book • cash flow forecasts • financial budgets • financial indicators, which may be short-, medium- and/or long-term • payroll records, superannuation entitlements • profit and loss statements • ratios for profitability, liquidity/efficiency/financial structure • risk management • statements/forecasts • taxation returns including goods and services tax
<i>Specialist services</i> may include:	<ul style="list-style-type: none"> • accountants • business brokers/business consultants • government agencies • industry/trade associations • lawyers and providers of legal advice • mentors • online gateways • providers of training in accounting software
<i>Cash flow</i> may include:	<ul style="list-style-type: none"> • anticipated payments • anticipated receipts • customer credit policy/debt recovery • taxation provisions
<i>Relevant people</i> may include:	<ul style="list-style-type: none"> • family members • financial backers • franchise agency • owner/operator • partners • regulatory bodies • trade or industry associations
<i>Financial backers</i> may include:	<ul style="list-style-type: none"> • financiers/banks/lending institutions • leasing and hire purchase financiers • providers of venture capital • shareholders/partners/owners/family/friends
<i>Credit policies</i> may include:	<ul style="list-style-type: none"> • collateral • credit limits • credit references

RANGE STATEMENT	
	<ul style="list-style-type: none"> • debt collection • payment options • proof of Indigenous identity • trading terms
<i>Financial ratios</i> may include:	<ul style="list-style-type: none"> • current ratio • days debtors outstanding • days stock on hand • expense percentages • gross profit percentage • liquid ratio • net profit percentage • proprietary/debt ratio • return on investment/return on total assets • staff productivity measures • stock turn rates

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Small and Micro Business
-------------------------	--

Co-requisite units

Co-requisite units	

BSBSMB407A Manage a small team

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to plan for the management of and to manage staff. It involves industrial relations, staff selection, staff records, induction, training, team development and career planning to enhance business operations through retaining a competent, committed and motivated team in the workplace.</p> <p>Specific legal requirements apply to the management of a small business.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This work is undertaken by individuals who operate a small business.</p> <p>The unit is suitable for existing micro and small businesses or a department in a larger organisation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop staffing plan	1.1. Determine <i>staffing requirements</i> to allow the business to run effectively, in accordance with the business requirements as outlined in the business plan 1.2. Identify and compare the existing skills/competencies of owner/s and staff with business requirements to identify any gaps 1.3. Develop <i>policies and procedures</i> for owner/s and staff, in accordance with the business plan
2. Recruit, induct, train and retain the team	2.1. Develop job/position descriptions, competencies required and selection criteria to meet the needs of the business 2.2. Judge information obtained from each candidate against specified selection criteria and decide selection in accordance with business needs and legal requirements 2.3. Induct new staff members in accordance with the policies and procedures of the business 2.4. Make team members aware of their responsibilities and performance requirements as soon as practicable and take opportunities to coach team members who are unfamiliar with the procedures of the business 2.5. Develop and implement a <i>staff development program and career paths</i> based on the requirements of business and staff competencies 2.6. <i>Advertise staff vacancies</i> appropriately in accordance with staffing plan
3. Comply with INDUSTRIAL RELATIONS obligations	3.1. Clarify workplace rights and obligations of employers and employees, in accordance with <i>legal requirements and codes of practice</i> 3.2. Counsel staff, if required, in a positive and constructive manner and record outcomes accurately
4. Maintain staff records	4.1. Develop <i>staff records system</i> to provide timely and accurate information, in accordance with confidentiality, legal and taxation requirements 4.2. Monitor and accurately maintain the system for recording and retrieving personnel and payroll information and seek specialist advice where required
5. Manage staff	5.1. Regularly review contribution and skills of self and

ELEMENT	PERFORMANCE CRITERIA
	<p>other team members to ensure performance is in line with agreed <i>performance measures</i></p> <p>5.2. Monitor and adjust staffing requirements to respond to any changes in tasks and functions required by the business</p> <p>5.3. Support and encourage staff, and acknowledge and reward their contribution to the business</p> <p>5.4. Regularly provide opportunities for staff to discuss work related issues</p> <p>5.5. Develop <i>contingency plans</i> to cope with unexpected or extreme situations and take appropriate corrective action as required</p>
6. Review team performance	<p>6.1. Develop positive and constructive relationships with and between <i>team members</i></p> <p>6.2. Review and update team objectives in support of business goals on a regular basis in consultation with team members</p> <p>6.3. Identify strengths and weaknesses of team against current and expected work requirements</p> <p>6.4. Schedule time, on a regular basis, for team members to review work operations in order to maintain and improve operational efficiency</p> <p>6.5. Encourage team members to monitor their own performance, suggest improvements and to identify professional development needs, in accordance with personal and business requirements</p> <p>6.6. Monitor and review staff turnover rate</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analytical skills to identify workplace skill gaps
- coaching skills
- communication skills to relate to staff
- conflict resolution skills
- literacy skills to interpret legal requirements, to compile reports and to prepare a job/position description
- team building and motivation skills.

Required knowledge

- commonwealth, state/territory and local government legislative requirements relating to business operation, especially in regard to occupational health and safety (OHS) and environmental issues, equal employment opportunity (EEO), industrial relations and anti-discrimination
- OHS responsibilities and procedures for managing hazards
- relevant industry awards/enterprise agreements
- staff development and career planning
- staff counselling, grievance and disciplinary procedures
- unfair dismissal legislation and procedures.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> managing a small team including staff selection, staff records, induction, training and development developing and maintaining team performance to enhance business operations knowledge of relevant legislative requirements affecting business operation.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to relevant documentation candidate's individual circumstances and work in the context of running a small business, are the basis for assessment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> portfolio of evidence including staff policies and records, and contingency plans oral or written questioning to assess knowledge of staff recruitment procedures, staff development and review programs review of job/position descriptions and selection criteria developed review of documentation monitoring and reviewing staff turnover rate.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> BSBSMB405A Monitor and manage small business operations.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Staffing requirements</i> may include:</p>	<ul style="list-style-type: none"> • full-time, part-time, permanent, temporary or casual • number of staff • responsibilities, competencies required • self, other owners, family and/or friends • sub-contractors or external advisors/consultants • time commitment, performance expectations
<p><i>Policies and procedures</i> must include:</p>	<ul style="list-style-type: none"> • complaint and grievance procedures • culturally appropriate entitlements e.g. funeral leave, national/religious days • culturally appropriate procedures e.g. how business will enact cultural requirements for relationships between owner/operator, employees and service providers • employment conditions, equal opportunity, anti-discrimination, cultural diversity • induction and training • OHS • recruitment and selection • performance measures • professional development
<p><i>Staff development program and career paths</i> may include</p>	<ul style="list-style-type: none"> • attendance at courses • career planning • coaching • flexible learning • job rotation • mentoring • on-the-job training • professional development • staff exchanges • succession planning
<p><i>Advertising staff vacancies</i> may</p>	<ul style="list-style-type: none"> • electronic (radio, television and internet)

RANGE STATEMENT	
include:	<ul style="list-style-type: none"> • noticeboards • print media • word-of-mouth
<i>Industrial relations</i> may include:	<ul style="list-style-type: none"> • awards and/or industrial agreements and relevant industrial instruments • counselling, dismissal procedures
<i>Legal requirements and codes of practice</i> may include:	<ul style="list-style-type: none"> • award and enterprise agreements and relevant industrial instruments • commonwealth, state/territory and local government legislative requirements affecting business operation, especially in regard to OHS and environmental issues, EEO, industrial relations and anti-discrimination • relevant industry codes of practice
<i>Staff records system</i> must include:	<ul style="list-style-type: none"> • disciplinary and grievance procedures • employee records (including tax file number, remuneration, leave and training records) • job/position descriptions • OHS record • records of taxation and superannuation payments made
<i>Performance measures</i> may include:	<ul style="list-style-type: none"> • overall staff productivity • percentage of chargeable hours/days per week • performance of key people • ratio of direct workers to those who support, supervise or manage them • ratio of sales dollars per employee • staff morale, work ethic, work satisfaction
<i>Contingency plans</i> may include:	<ul style="list-style-type: none"> • accidents or emergencies • environmental issues • fluctuating workloads • OHS • unpredicted customer demand/busy periods • unpredicted staff shortages
<i>Team members</i> may include:	<ul style="list-style-type: none"> • employees, trainees/apprentices, sub-contractors or external advisers/consultants • owner/s, partners, family members

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Small and Micro Business
-------------------------	--

Co-requisite units

Co-requisite units		

BSBWOR204A Use business technology

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to select, use and maintain a range of business technology. This technology includes the effective use of computer software to organise information and data.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to individuals who use business technology to perform a range of routine tasks. They use a limited range of practical skills and fundamental knowledge of equipment use and the organisation of data or files in a defined context, under direct supervision or with limited individual responsibility.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select and use technology	1.1. Select appropriate <i>technology</i> and <i>software applications</i> to achieve the requirements of the task 1.2. Adjust workspace, furniture and equipment to suit user ergonomic requirements 1.3. Use technology according to <i>organisational requirements</i> and in a way which promotes a safe work environment
2. Process and organise data	2.1. Identify, open, generate or amend files and records according to task and organisational requirements 2.2. Operate <i>input devices</i> according to organisational requirements 2.3. <i>Store data</i> appropriately and exit applications without damage to or loss of, data 2.4. Use manuals, training booklets and/or online help or help-desks to overcome basic difficulties with applications
3. Maintain technology	3.1. Identify and replace used <i>technology consumables</i> in accordance with manufacturer's instructions and organisational requirements 3.2. Carry out and/or arrange <i>routine maintenance</i> to ensure equipment is maintained in accordance with manufacturer's instructions and organisational requirements 3.3. <i>Identify equipment faults</i> accurately and take action in accordance with manufacturer's instructions or report fault to designated person

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to identify work requirements; to understand and process basic, relevant workplace information; and to follow written instructions
- communication skills to request advice, to receive feedback and to work with a team
- problem-solving skills to solve routine technology problems.

Required knowledge

- key provisions of relevant legislation from all levels of government that may affect aspects of business operations, such as:
 - anti-discrimination legislation
- ethical principles
 - codes of practice
 - privacy laws
 - occupational health and safety (OHS)
- organisational policies, plans and procedures, especially in regard to file-naming and storage conventions
- organisational IT procedures including back-up and virus protection procedures
- basic technical terminology in relation to reading help-files and manuals.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • selection and application of appropriate equipment and software applications in relation to assigned task/s • access, retrieval and storage of required data • performance of basic maintenance on a range of office equipment
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • examples of files and data for storage • manuals and training booklets for equipment.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • analysis of responses to case studies and scenarios • demonstration of techniques • oral or written questioning to assess knowledge of office equipment • evaluation of maintaining technology.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • IT use units • other industry capability units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Technology</i> may include:</p>	<ul style="list-style-type: none"> • computer technology, such as laptops and personal computers • digital cameras • modems • printers • scanners • zip drives • photocopiers • shredders • binders • laminators • cutters
<p><i>Software applications</i> may include:</p>	<ul style="list-style-type: none"> • email, internet • word processing, spreadsheet, database, accounting or presentation packages
<p><i>Organisational requirements</i> may include:</p>	<ul style="list-style-type: none"> • correctly identifying and opening files • legal and organisation policies, guidelines and requirements • locating data • log-on procedures • manufacturer's guidelines • OHS policies, procedures and programs • saving and closing files • storing data
<p><i>Input devices</i> may include:</p>	<ul style="list-style-type: none"> • keyboard • mouse • numerical key pad • scanner
<p><i>Storage of data</i> may include:</p>	<ul style="list-style-type: none"> • appropriate storage/filing of hard copies of computer generated documents • storage in directories and sub-directories • storage on CD-ROMs, hard and floppy disk drives or back-up systems

RANGE STATEMENT	
<i>Technology consumables</i> may include:	<ul style="list-style-type: none"> • back-up tapes • CD-ROM • floppy disks • print heads • printer ribbons and cartridges • toner cartridges • zip disks
<i>Routine maintenance</i> may include:	<ul style="list-style-type: none"> • in-house cleaning and servicing of equipment according to manufacturer's guidelines • periodic servicing by qualified or manufacturer approved, technician • regular checking of equipment • replacing consumables
<i>Identifying equipment faults</i> may include:	<ul style="list-style-type: none"> • checking repairs have been carried out • encouraging feedback from work colleagues • keeping a log book of detected faults • preparing a maintenance program • regular back-ups of data • regular OHS inspections • routine checking of equipment

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Industry Capability - Workplace Effectiveness
-------------------------	---

Co-requisite units

Co-requisite units	

Co-requisite units		

BSBWOR401A Establish effective workplace relationships

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to collect, analyse and communicate information and to use that information to develop and maintain effective working relationships and networks, with particular regard to communication and representation.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>Frontline managers play an important role in developing and maintaining positive relationships in internal and external environments so that customers, suppliers and the organisation achieve planned outputs and outcomes. They play a prominent part in motivating, mentoring, coaching and developing team cohesion through providing leadership for the team and forming the bridge between the management of the organisation and team members.</p> <p>At this level, work will normally be carried out within routine and non routine methods and procedures, which require planning and evaluation, and leadership and guidance of others.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Collect, analyse and communicate information and ideas	1.1. Collect relevant <i>information</i> from appropriate sources and analyse and share with the work team to improve work performance 1.2. Communicate ideas and information in a manner which is appropriate and sensitive to the cultural and social diversity of the audience and any specific needs 1.3. Implement <i>consultation processes</i> to encourage employees to contribute to issues related to their work, and promptly relay feedback to the work team in regard to outcomes 1.4. Seek and value contributions from internal and external sources in developing and refining new ideas and approaches 1.5. Implement <i>processes</i> to ensure that issues raised are resolved promptly or referred to <i>relevant personnel</i> as required
2. Develop trust and confidence	2.1. Treat all internal and external contacts with integrity, respect and empathy 2.2. Use the <i>organisation's social, ethical and business standards</i> to develop and maintain effective relationships 2.3. Gain and maintain the trust and confidence of <i>colleagues, customers and suppliers</i> through competent performance 2.4. Adjust interpersonal styles and methods to meet organisation's social and cultural environment 2.5. Encourage other members of the work team to follow examples set, according to <i>organisation's policies and procedures</i>
3. Develop and maintain networks and relationships	3.1. Use <i>networks</i> to identify and build relationships 3.2. Use networks and other work relationships to provide identifiable benefits for the team and organisation
4. Manage difficulties into positive outcomes	4.1. Identify and analyse difficulties, and take action to rectify the situation within the requirements of the organisation and relevant legislation 4.2. Guide and support colleagues to resolve work difficulties 4.3. Regularly review and improve <i>workplace outcomes</i>

ELEMENT	PERFORMANCE CRITERIA
	<p>in consultation with relevant personnel</p> <p>4.4. Manage <i>poor work performance</i> within the organisation's processes</p> <p>4.5. Manage conflict constructively within the organisation's processes</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- coaching and mentoring skills to provide support to colleagues
- literacy skills to research, analyse, interpret and report information
- relationship management and communication skills to:
 - deal with people openly and fairly
 - forge effective relationships with internal and/or external people, and to develop and maintain these networks
 - gain the trust and confidence of colleagues
 - respond to unexpected demands from a range of people
 - use supportive and consultative processes effectively.

Required knowledge

- relevant legislation from all levels of government that affects business operation, especially in regard to occupational health and safety (OHS), and environmental issues, equal opportunity, industrial relations and anti-discrimination
- theory associated with managing work relationships to achieve planned outcomes:
 - developing trust and confidence
 - maintaining consistent behaviour in work relationships
 - understanding the cultural and social environment
 - identifying and assessing interpersonal styles
 - establishing, building and maintaining networks
 - identifying and resolving problems
 - resolving conflict
 - managing poor work performance
 - monitoring, analysing and introducing ways to improve work relationships.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • range of methods and techniques for communicating information and ideas to a range of stakeholders • range of methods and techniques for developing positive work relationships that build trust and confidence in the team • accessing and analysing information to achieve planned outcomes • techniques for resolving problems and conflicts and dealing with poor performance • knowledge of the theory associated with managing work relationships to achieve planned outcomes.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • demonstration of techniques in managing poor performance and communicating effectively • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • observation of presentations • oral or written questioning to assess knowledge of relevant legislation • review of consultation processes implemented to encourage employees to contribute to issues related to their work • review of documentation outlining reviewing of workplace outcomes.
Guidance information for	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended,</p>

EVIDENCE GUIDE**assessment**

for example:

- other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Information</i> may include:</p>	<ul style="list-style-type: none"> • data appropriate to work roles and organisational policies that is shared and retrieved in writing or verbally, electronically or manually such as: <ul style="list-style-type: none"> • archived, filed and historical background data • individual and team performance data • marketing and customer related data • planning and organisational documents including the outcomes of continuous improvement and quality assurance • policies and procedures
<p><i>Consultation processes</i> may include:</p>	<ul style="list-style-type: none"> • feedback to the work team and relevant personnel in relation to outcomes of the consultation process • opportunities for all employees to contribute to ideas and information about organisational issues
<p><i>Processes</i> to ensure that issues raised are resolved promptly or referred may include:</p>	<ul style="list-style-type: none"> • conducting informal meetings • coordinating surveys or questionnaires • distributing newsletters or reports • exchanging informal dialogue with relevant personnel • participating in planned organisational activities
<p><i>Relevant personnel</i> may include:</p>	<ul style="list-style-type: none"> • managers • OHS committee and other people with specialist responsibilities • other employees • supervisors • union representatives/groups
<p><i>Organisation's social, ethical and business standards</i> may refer to:</p>	<ul style="list-style-type: none"> • implied standards such as honesty and respect relative to the organisational culture and generally accepted within the wider

RANGE STATEMENT	
	<ul style="list-style-type: none"> community • rewards and recognition for high performing staff • standards expressed in legislation and regulations such as anti-discrimination legislation • written standards such as those expressed in: <ul style="list-style-type: none"> • code of workplace conduct/behaviour • dress code • policies • statement of workplace values • vision and mission statements
<i>Colleagues, customers and suppliers</i> may include:	<ul style="list-style-type: none"> • both internal and external contacts • employees at the same level and more senior managers • people from a wide variety of social, cultural and ethnic backgrounds • team members
<i>Organisation's policies and procedures</i> may refer to:	<ul style="list-style-type: none"> • Materials Safety Data Sheets • organisational tasks and activities undertaken to meet performance outcomes • sets of accepted actions approved by the organisation • Standard Operating Procedures
<i>Networks</i> may be:	<ul style="list-style-type: none"> • established structures or unstructured arrangements and may include business or professional associations • informal or formal and with individuals or groups • internal and/or external
<i>Workplace outcomes</i> may include:	<ul style="list-style-type: none"> • OHS processes and procedures • performance of the work team
<i>Poor work performance</i> may refer to:	<ul style="list-style-type: none"> • individual team members • organisation as a whole • self • whole work team

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Industry Capability - Workplace Effectiveness
-------------------------	---

Co-requisite units

Co-requisite units		

BSBWOR402A Promote team effectiveness

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to promote teamwork. It involves developing team plans to meet expected outcomes, leading the work team, and proactively working with the management of the organisation.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>Frontline managers have an important leadership role in the development of efficient and effective work teams. They play a prominent part in team planning, supervising the performance of the team and developing team cohesion. They provide leadership for the team and bridge the gap between the management of the organisation and the team members. As such they must 'manage up' as well as manage their team/s.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan to achieve team outcomes	1.1. Identify, establish and document team purpose, roles, responsibilities, goals, plans and objectives in consultation with team members 1.2. Support team members in meeting expected outcomes
2. Develop team cohesion	2.1. Provide opportunities for input of team members into planning, decision making and operational aspects of work team 2.2. Encourage and support team members to take responsibility for own work and to assist each other in undertaking required roles and responsibilities 2.3. Provide feedback to team members to encourage, value and reward individual and team efforts and contributions 2.4. Recognise and address issues, concerns and problems identified by team members or refer to relevant persons as required
3. Participate in and facilitate work team	3.1. Actively encourage team members to participate in and take responsibility for team activities and communication processes 3.2. Give the team support to identify and resolve problems which impede its performance 3.3. Ensure own contribution to work team serves as a role model for others and enhances the organisation's image within the work team, the organisation and with clients/customers
4. Liaise with management	4.1. Maintain open communication with line manager/management at all times 4.2. Communicate information from line manager/management to the team 4.3. Communicate unresolved issues, concerns and problems raised by the team/team members to line manager/management and ensure follow-up action is taken 4.4. Communicate unresolved issues, concerns and problems related to the team/team members raised by line managers/management to the team and ensure follow-up to action is taken

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to:
 - boost team morale
 - deal with team conflict
 - deliver messages from management
 - facilitate discussion
 - mentor and coach
- leadership skills
- planning and organising skills.

Required knowledge

- organisational goals, objectives and plans
- organisational policy and procedures framework
- organisational structure, including organisational chart
- principles and techniques associated with:
 - delegation and work allocation
 - goal setting
 - group dynamics and processes
 - individual behaviour and difference
 - leadership
 - motivation
 - negotiation
 - planning.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> teamwork plan with details of how it was generated and how it will be monitored so that team goals can be met techniques in communicating information, dealing with team conflict and resolving issues knowledge of organisational goals, objectives and plans.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> analysis of responses to case studies and scenarios direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate observation of demonstrated techniques in working with team dynamics observation of performance in role plays oral or written questioning to assess knowledge of principles and techniques associated with group dynamics and processes evaluation of opportunities provided for input of team members into planning, decision making and operational aspects of work team review of feedback provided to team members review of teamwork plan.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> other units from the Certificate IV in Frontline

EVIDENCE GUIDE	
	Management.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Team purpose, roles, responsibilities, goals, plans and objectives</i> may include:</p>	<ul style="list-style-type: none"> • action plans, business plans and operational plans linked to strategic plans • expected outcomes and outputs • goals for individuals and the work team • individual and team performance plans and key performance indicators • occupational health and safety (OHS) responsibilities
<p><i>Consultation</i> may include:</p>	<ul style="list-style-type: none"> • attending meetings, interviews, brainstorming sessions • using email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual effectiveness • using mechanisms to provide feedback to the work team in relation to consultation outcomes
<p><i>Responsibility for own work</i> may involve:</p>	<ul style="list-style-type: none"> • individual and joint actions • individuals and teams
<p><i>Feedback</i> may refer to:</p>	<ul style="list-style-type: none"> • formal/informal gatherings between team members where there is communication on work related matters • informal communication of ideas and thoughts on specific tasks, outcomes, decisions, issues or behaviours
<p><i>Relevant persons</i> may include:</p>	<ul style="list-style-type: none"> • colleagues • direct superior or other management representatives • OHS committees and other people with specialist responsibilities
<p><i>Communication</i> may include:</p>	<ul style="list-style-type: none"> • face-to-face • formal/informal interaction

RANGE STATEMENT	
	<ul style="list-style-type: none"> • verbal, written or electronic communication
<i>Line manager/management</i> may refer to:	<ul style="list-style-type: none"> • direct superior or other management representatives

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Management and Leadership - Management
-------------------------	--

Co-requisite units

Co-requisite units		

BSBWOR403A Manage stress in the workplace

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to manage own stress and the stress of others stress in a team environment.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to the understanding and management of own stress and team stress in the workplace.</p> <p>Competence in this unit requires managing own stress and managing the stress within a team by using effective strategies and initiatives to reduce stress and to improve the resilience of staff to withstand the stresses associated with a customer contact environment. This will require application of sound occupational health and safety (OHS) management in accordance with legislation and organisational policies and guidelines.</p> <p>This role is undertaken by staff with managerial responsibility.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop and implement personal stress management strategy	1.1. Recognise <i>signs and sources of stress</i> 1.2. Use appropriate techniques to manage own stress 1.3. Maintain personal stamina and resilience 1.4. Maintain personal work/life balance 1.5. Become a role model in managing stress and time
2. Develop stress management strategies and techniques within a team	2.1. Analyse and understand potential <i>sources of fatigue</i> and stress in the work environment 2.2. Develop an understanding of a range of <i>stress management techniques</i> within a team 2.3. Develop techniques to support the achievement of <i>key performance indicators (KPIs) and priorities</i> 2.4. Encourage team members to support each other in managing stress 2.5. Adopt strategies to effectively reduce, manage and deal with stress within a team 2.6. Adopt <i>stamina management strategies</i> to maximise performance 2.7. Develop techniques to assist team members to recover effectively from a <i>stressful or difficult situation</i>
3. Implement stress management techniques within a team	3.1. Adopt work routine and procedural strategies to minimise stress and fatigue within a team 3.2. Use appropriate <i>time management tools and techniques</i> 3.3. Develop individual/group training and development program as required 3.4. Use team meetings and other opportunities to discuss stress management techniques and to coach staff in using these techniques 3.5. Regularly evaluate tools, techniques and strategies 3.6. Develop team awareness of sources of internal and external support
4. Develop team and morale building strategies	4.1. Develop a strategy to engage and develop team members 4.2. Develop a communication strategy within a team 4.3. Manage and use team meetings effectively 4.4. Develop a supportive and responsive team environment 4.5. Delegate effectively to further empower and

ELEMENT	PERFORMANCE CRITERIA
	motivate team members
5. Monitor and address stress levels within a team	5.1. Monitor individual staff performance against performance requirements 5.2. Conduct regular staff reviews to identify variations and difficulties impacting on work requirements 5.3. Monitor and support team members when in stressful situations 5.4. Respond appropriately to behavioural signs of stress among team members 5.5. Monitor work/life balance of team members 5.6. Discuss outcomes and develop action plans with team members as appropriate

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- coaching and mentoring skills to give feedback in difficult and tense situations
- communication skills to conduct effective formal and informal meetings and to communicate with personnel at all levels of the organisation
- communication skills to relate to people from diverse backgrounds and people with diverse abilities
- consultation and negotiation skills to establish and implement development plans and actions for team members
- interpersonal skills to establish rapport and to build relationships with team members
- leadership skills to gain the trust and confidence of colleagues and team members
- literacy skills to clearly articulate information, ideas and advice
- organisational skills to manage own tasks within timeframes
- problem-solving skills to creatively and positively address issues that arise
- self-management skills to be an excellent role model for a team
- team building skills to ensure cohesion within a team.

Required knowledge

- behavioural management techniques
- internal and external sources of assistance
- job role priorities and KPIs
- OHS principles and requirements
- signs and sources of existing and potential stress or difficult situations
- stress management and reduction techniques
- time management tools and techniques
- workplace policies and procedures.

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • explanation of signs and sources of stress • explanation of job role priorities and KPIs • ability or strategy to recover from stressful contact • work stamina and implementation of work/life management strategies • knowledge of OHS principles and requirements.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to workplace information and data • access to performance management, development plan and training records • access to relevant legislation, standards and guidelines • access to staff feedback and satisfaction survey records.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • oral and/or written questioning to assess knowledge of signs and sources of stress, and time management tools and techniques • direct observation of the candidate effectively managing time and work priorities • oral and /or written questioning of the process for the candidate to work through and recover from a stressful situation with a team member during and after the situation • review and analysis of attendance records • review of development plans and feedback for team members • review of minutes of team meetings.

EVIDENCE GUIDE

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- relevant management units.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Signs of stress</i> may include:	<ul style="list-style-type: none"> • absence from work • conflict • fatigue • lack of self-esteem and confidence • poor work performance • sickness
<i>Sources of stress</i> may include:	<ul style="list-style-type: none"> • challenging KPIs and/or priorities • complex tasks • difficult customer contact • external factors • inadequate physical environment • interpersonal relationships
<i>Sources of fatigue</i> may include:	<ul style="list-style-type: none"> • ergonomic factors • excessive overtime • external issues • overload of information • repetitive tasks and/or contacts • shift rostering and hours of work
<i>Stress management techniques</i> may include:	<ul style="list-style-type: none"> • debriefing with peers and/or line manager • relaxation methods • specific training • stretching and exercises • taking breaks
<i>Key performance indicators (KPIs) and priorities</i> may include:	<ul style="list-style-type: none"> • adherence to schedule • average handling time • call rates • customer satisfaction feedback • quality assurance requirements • sales targets • targets
<i>Stamina management strategies</i>	<ul style="list-style-type: none"> • management of personal wellbeing, for example:

RANGE STATEMENT	
may include:	<ul style="list-style-type: none"> • breaks • hydration • life balance • meals • recognising fatigue • management of the environment, for example: <ul style="list-style-type: none"> • climate • ergonomics • noise • management of work, for example: <ul style="list-style-type: none"> • minimising re-working • sequencing tasks
<i>Stressful or difficult situations</i> may include:	<ul style="list-style-type: none"> • angry customer • changing regulations and legislation • customer abuse • customer complaint • high number of customer contacts • sensitive customer situations • unreliable technology
<i>Time management tools and techniques</i> may include:	<ul style="list-style-type: none"> • diarising and/or scheduling tasks and time • organising information • prioritising tasks • self-managing training requirements

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Industry Capability - Workplace Effectiveness
-------------------------	---

Co-requisite units

Co-requisite units		

BSBWOR404B Develop work priorities

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to plan one's own work schedules, to monitor and to obtain feedback on work performance and development. It also addresses the requirement to take responsibility for one's own career planning and professional development.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to individuals who are required to design their own work schedules and work plans, and to establish priorities for their work. They will typically hold some responsibilities for the work of others and have some autonomy in relation to their own role.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and complete own work schedule	1.1. Prepare Workgroup plans which reflect consideration of resources, client needs and workgroup targets 1.2. Analyse and incorporate Work objectives and priorities into personal schedules and responsibilities 1.3. Identify Factors affecting the achievement of work objectives and establish contingencies and incorporate them into work plans 1.4. Efficiently and effectively use Business technology to manage and monitor planning completion and scheduling of tasks
2. Monitor own work performance	2.1. Identify and analysed personal performance through self-assessment and feedback from others on the achievement of work objectives 2.2. Seek and evaluate Feedback on performance from colleagues and clients in the context of individual and group requirements 2.3. Routinely identify and report on variations in the quality of service and performance in accordance with organisational requirements
3. Coordinate professional development	3.1. Assess personal knowledge and skills against organisational benchmarks to determine development needs and priorities 3.2. Research and identify sources and plan for opportunities for improvement in consultation with colleagues 3.3. Use Feedback to identify and develop ways to improve competence within available opportunities 3.4. Identify, access and complete professional development activities to assist career development 3.5. Store and maintain records and documents relating to achievements and assessments in accordance with organisational requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- learning skills to recognise and develop new and necessary skills and knowledge
- literacy skills to understand the organisation's policies, procedures and communications, to write personal work plans and professional development plans, and to request and receive feedback about performance
- organising skills to prioritise, manage time and meet deadlines
- problem solving skills to develop contingency plans

Required knowledge

- knowledge of relevant business technology applications to schedule tasks and plan work
- knowledge of techniques to prepare personal plans and establish priorities
- methods to identify and prioritise personal learning needs
- understanding of a range of professional development options
- understanding of methods to elicit, analyse and interpret feedback
- understanding of methods to evaluate own performance

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • preparing and communicating own work plan • scheduling work objectives and tasks to support the achievement of goals • seeking and acting on feedback from clients and colleagues • reviewing own work performance against achievements through self-assessment • accessing learning opportunities to extend own personal work competencies • using business technology to monitor self development.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • the learner and trainer should have access to appropriate documentation and resources normally used in the workplace
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • observation of presentations • review of work and professional development plans.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • Other units from the Certificate IV in Frontline Management.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Workgroup plans</i> may include:</p>	<ul style="list-style-type: none"> • budgetary plans • production plans • reporting plans • sales plans • team and individual learning goals • team participation • work schedules
<p><i>Work objectives</i> may include:</p>	<ul style="list-style-type: none"> • budgetary targets • production targets • reporting deadlines • sales targets • team and individual learning goals • team participation
<p><i>Factors affecting the achievement of work objectives</i> may include:</p>	<ul style="list-style-type: none"> • budget constraints • competing work demands • environmental factors such as time, weather, etc • personnel • resource and materials availability • technology/equipment breakdowns • unforeseen incidents
<p><i>Business technology</i> may include:</p>	<ul style="list-style-type: none"> • computer applications • computers • email and internet/intranet/extranet • facsimile machines • modems • personal schedules • photocopiers • printers • scanners
<p><i>Feedback on performance</i> may include:</p>	<ul style="list-style-type: none"> • formal/informal performance appraisals • obtaining comments from clients • obtaining comments from supervisors and

RANGE STATEMENT	
	colleagues <ul style="list-style-type: none"> • personal, reflective behaviour strategies • routine organisational methods for monitoring service delivery
<i>Professional development activities</i> may include:	<ul style="list-style-type: none"> • career planning/development • coaching, mentoring and/or supervision • formal/informal learning programs • internal/external training provision • performance appraisals • personal study • Recognition of Prior Learning • work experience/exchange/opportunities • workplace skills assessment

Unit Sector(s)

Unit sector	
--------------------	--

ELEMENT	PERFORMANCE CRITERIA

Competency field

Competency field	Management and Leadership - Management
-------------------------	--

Co-requisite units

Co-requisite units		

BSBWOR502B Ensure team effectiveness

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to facilitate all aspects of teamwork within the organisation. It involves taking a leadership role in the development of team plans, leading and facilitating teamwork and actively engaging with the management of the organisation.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to managers and addresses the need for managers to facilitate work teams and to build a positive culture within work teams. The unit takes a systematic and planned approach to developing teams. It includes the soft skills as well as more structured approaches to the management of teams.</p> <p>At this level, work will normally be carried out within complex and diverse methods and procedures which require the exercise of considerable discretion and judgement, using a range of problem solving and decision making strategies.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish team performance plan	1.1. Consult team members to establish a common understanding of team purpose, roles, responsibilities and accountabilities in accordance with organisational goals, plans and objectives 1.2. Develop performance plans to establish expected outcomes, outputs, key performance indicators and goals for work team 1.3. Support team members in meeting expected performance outcomes
2. Develop and facilitate team cohesion	2.1. Develop strategies to ensure team members have input into planning, decision making and operational aspects of work team 2.2. Develop policies and procedures to ensure team members take responsibility for own work and assist others to undertake required roles and responsibilities 2.3. Provide feedback to team members to encourage, value and reward individual and team efforts and contributions 2.4. Develop processes to ensure that issues, concerns and problems identified by team members are recognised and addressed
3. Facilitate teamwork	3.1. Encourage team members and individuals to participate in and to take responsibility for team activities, including communication processes 3.2. Support the team in identifying and resolving work performance problems 3.3. Ensure own contribution to work team serves as a role model for others and enhances the organisation's image for all stakeholders
4. Liaise with stakeholders	4.1. Establish and maintain open communication processes with all stakeholders 4.2. Communicate information from line manager/management to the team 4.3. Communicate unresolved issues, concerns and problems raised by team members and follow-up with line manager/management and other relevant stakeholders 4.4. Evaluate and take necessary corrective action regarding unresolved issues, concerns and problems raised by internal or external stakeholders

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to explain team goals, to address team conflict and to build an environment of trust
- planning and organisational skills to keep team on track and focussed on work outcomes.

Required knowledge

- group behaviour
- strategies for mentoring and coaching to informally guide and instruct team members
- issue resolution
- strategies for gaining consensus.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • range of techniques that can be used to build work teams, strengthen communications in the team and resolve issues • methods for engaging with stakeholders and obtaining advice from outside the work team, to ensure team is focussed and on track • knowledge of group behaviour.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to appropriate documentation and resources normally used in the workplace.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • analysis of responses to case studies and scenarios • assessment of written reports • demonstration of team building techniques • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • observation of performance in role plays • review of performance plans developed for work team • review of policies and procedures developed to ensure team members take responsibility for own work.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • other units from the Diploma of Management.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Consultation</i> may refer to:</p>	<ul style="list-style-type: none"> • conducting meetings, interviews, brainstorming sessions, email/intranet communications, newsletters or other processes and devices which ensure that all employees have the opportunity to contribute to team and individual performance plans • mechanisms used to provide feedback to the work team in relation to outcomes of consultation
<p><i>Accountabilities</i> may refer to:</p>	<ul style="list-style-type: none"> • responsibilities as defined in position descriptions, codes of conduct/behaviour, duty statements or similar • statement of conduct outlining responsibilities/actions/performance
<p><i>Performance plans</i> may refer to:</p>	<ul style="list-style-type: none"> • individual performance plans linked to team goals • team plans based on work assignments and responsibilities
<p><i>Outcomes, outputs, key performance indicators</i> may refer to agreed:</p>	<ul style="list-style-type: none"> • changes in work roles and responsibilities • improved individual and team, performance and participation • improvements to systems, operations • measures for monitoring and evaluating the efficiency or effectiveness of systems or services • quality standards and expectations • targets for productivity improvements such as reduced downtime, higher production levels, decreases in absenteeism • targets for training and development
<p><i>Support</i> may include:</p>	<ul style="list-style-type: none"> • Coaching • Mentoring • Training and development opportunities • Clarification of roles and expectations

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Long term or short term plans • Meetings
<i>Strategies</i> may refer to:	<ul style="list-style-type: none"> • clarification of roles and expectations • electronic communication devices and processes, such as intranet and email communication systems, to facilitate input • long-term or short-term plans factoring in opportunities for team input • mentoring and 'buddy' systems to support team members in providing input • newsletters and briefings • training and development activities
<i>Policies and procedures</i> may refer to:	<ul style="list-style-type: none"> • organisational guidelines and systems that govern operational functions • procedures that detail the activities that must be carried out for the completion of actions and tasks • Standard Operating Procedures
<i>Processes</i> may refer to:	<ul style="list-style-type: none"> • brainstorming options with the team for addressing concerns • creating a matrix of issues and concerns and distributing for comment • discussions with individuals regarding their concerns • distributing drafts for comment with a range of options for resolution of concerns • training and development sessions
<i>Stakeholders</i> may include:	<ul style="list-style-type: none"> • Board members • business or government contacts • funding bodies • union/employee groups and representatives • work team
<i>Line manager/management</i> may refer to:	<ul style="list-style-type: none"> • chief executive officer • direct superior • other management representatives

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Industry Capability - Workplace Effectiveness
-------------------------	---

Co-requisite units

Co-requisite units		

BSBWRT301A Write simple documents

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to plan, draft and review a basic document before writing the final version.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to individuals who are skilled operators and apply a broad range of competencies in various work contexts. They may exercise discretion and judgement to produce a range of basic workplace documentation.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan document	1.1. Determine <i>audience</i> and <i>purpose</i> for the document 1.2. Determine <i>format</i> and <i>structure</i> 1.3. Establish key points for inclusion 1.4. Identify <i>organisational requirements</i> 1.5. Establish <i>method of communication</i> 1.6. Establish <i>means of communication</i>
2. Draft document	2.1. Develop draft document to communicate key points 2.2. Obtain and include any required additional information
3. Review document	3.1. Check draft for suitability of tone for audience, purpose, format and communication style 3.2. Check draft for readability, grammar, spelling, and sentence and paragraph construction 3.3. Check draft for sequencing and structure 3.4. Check draft to ensure it meets organisational requirements 3.5. Ensure draft is proofread, where appropriate, by supervisor or colleague
4. Write final document	4.1. Make and proofread necessary changes 4.2. Ensure document is sent to <i>intended recipient</i> 4.3. File copy of document in accordance with organisational policies and procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to read and understand a variety of texts; to prepare general information and papers according to target audience; and to proofread and edit documents to ensure clarity of meaning and conformity to organisational requirements
- problem-solving skills to determine document design and production processes.

Required knowledge

- basic grammar, spelling and punctuation.
- communication protocols
- how audience, purpose and method of communication influence tone
- organisational policies and procedures for document production
- resources to assist in document production, such as dictionary, thesaurus, templates, style sheets.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • producing a range of documents that accurately convey required basic information • using formatting suitable for intended audience • knowledge of organisational policies and procedures for document production.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to office equipment and resources • examples of documents.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of draft documents • analysis of responses to case studies and scenarios • demonstration of techniques • oral or written questioning to assess knowledge of communication protocols • review of final documents.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBITU303A Design and produce text documents • other general administration units.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Audience</i> may include:	<ul style="list-style-type: none"> • internal and external customers • recipient/s who receive a copy for information • primary recipient/s of the communication
<i>Purpose</i> may include:	<ul style="list-style-type: none"> • clarification of issues • communication about meetings or events • information • minutes/outcomes of meetings • request for information, advice or assistance • statements of fact • straightforward advice
<i>Format</i> may include:	<ul style="list-style-type: none"> • email • forms • letters • memos • minutes of meetings • organisational templates or proformas for letters, memos or reports • tables
<i>Structure</i> may include:	<ul style="list-style-type: none"> • organisation of the material to suit the format (e.g. scannability for on-screen use) • treatment of attachments and hyperlinks • visual signposting of material, including use of headings, lists, keywords and text in boxes
<i>Organisational requirements</i> may include:	<ul style="list-style-type: none"> • house style requirements • identified authorities for signatories for correspondence/communications • protocols, both written and unwritten for the organisation's internal and external communications • requirements for inclusive and non-discriminatory language and for adherence to copyright legislation
<i>Method of communication</i> may	<ul style="list-style-type: none"> • inclusive communication

RANGE STATEMENT	
include:	<ul style="list-style-type: none"> • use of active or passive voice • use of the appropriate register or style of language - formal, standard or informal
<i>Means of communication</i> may include:	<ul style="list-style-type: none"> • software packages such as MS Word, Excel, PageMaker, PowerPoint and templates
<i>Intended recipient</i> may include:	<ul style="list-style-type: none"> • audience for document • signatory of the document • supervisor or other staff member who may add to or forward document to another recipient

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Communication - Writing
-------------------------	-------------------------

Co-requisite units

Co-requisite units	

BSBWRT401A Write complex documents

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes, skills and knowledge required to plan documents, draft text, prepare final text and produce documents of some complexity.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit applies to individuals who work in a range of business environments and are skilled in the creation of reports, information and general promotion documents that are more complex than basic correspondence, memos or forms and that require review and analysis of a range of information sources.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan documents	1.1. Determine the <i>purposes</i> of documents 1.2. Choose <i>appropriate formats</i> for documents 1.3. Establish <i>means of communication</i> 1.4. Determine <i>requirements of documents</i> 1.5. Determine <i>categories and logical sequences of data, information and knowledge</i> to achieve document objectives 1.6. Develop overview of structure and content of documents
2. Draft text	2.1. Review and organise available data, information and knowledge according to proposed structure and content 2.2. Ensure data, information and knowledge is aggregated, interpreted and summarised to prepare text that satisfies document purposes and objectives 2.3. Include graphics as appropriate 2.4. Identify gaps in required data and information, and collect additional material from <i>relevant enterprise personnel</i> 2.5. Draft text according to document requirements and genre 2.6. Use language appropriate to the audience
3. Prepare final text	3.1. Review draft text to ensure document objectives are achieved and requirements are met 3.2. Check grammar, spelling and style for accuracy and punctuation 3.3. Ensure draft text is approved by <i>relevant</i> enterprise personnel 3.4. Process text amendments as required
4. Produce document	4.1. Choose basic <i>design elements</i> for documents appropriate to audience and purpose 4.2. Use word processing software to apply basic design elements to text 4.3. Check documents to ensure all requirements are met

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to clarify requirements of documents
- literacy skills to edit and proofread documents; to create documents with a complex, organised structure of linked paragraphs which use simple and complex syntactic structure
- numeracy skills to collate and present data, graphs and annotated references
- problem-solving skills to use processes flexibly and interchangeably.

Required knowledge

- enterprise style guide/house style
- formatting styles and their impact on formatting, readability and appearance of documents
- organisational requirements for ergonomics, work periods and breaks, and resource conservation techniques
- rules and conventions for written English, as defined by general and specialist dictionaries and books about grammar.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the following is essential:</p> <ul style="list-style-type: none"> • production of documents • editing draft text to ensure accuracy and clarity of information • knowledge of enterprise style guide/house style.
Context of and specific resources for assessment	<p>Assessment must ensure:</p> <ul style="list-style-type: none"> • access to an actual workplace or simulated environment • access to office equipment and resources • examples of documents and style guides.
Method of assessment	<p>A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:</p> <ul style="list-style-type: none"> • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of structure and content of documents • review of draft documents • review of final documents • demonstration of techniques • oral or written questioning to assess knowledge of word processing software functions.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • BSBITU401A Design and develop complex text documents.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<i>Purposes of documents</i> may include:	<ul style="list-style-type: none"> • conveying research findings • documenting policies, procedures and processes • influencing attitudes, opinions, beliefs • meeting legal requirements • meeting other data, information or knowledge needs of an audience • proposing recommendations, options and actions
<i>Appropriate formats</i> for documents may include:	<ul style="list-style-type: none"> • detailed business letters • emails • instructions and procedures • manuals • publications, leaflets, brochures • reports • speeches and presentations • submissions tender documentation and public notices • website text
<i>Means of communication</i> may include:	<ul style="list-style-type: none"> • software packages such as MS Word, MS Excel, MS PageMaker, MS PowerPoint and templates
<i>Requirements of documents</i> may include:	<ul style="list-style-type: none"> • compliance with genre • compliance with proformas, standardised reporting requirements or undertakings made by the organisation about reporting • file types and sizes for online documents • languages other than English requirements • legal or traditional requirements for the particular document format • organisational policy, procedures and guidelines applying to writing documents, including house style • point numbering systems • requirements for illustrations, photographs, graphs, charts, maps and other illustrative material

RANGE STATEMENT	
	<p>to explain texts</p> <ul style="list-style-type: none"> • standards for references, footnotes, citations, acknowledgements • time lines, including deadlines • word length • writing styles, including simplicity of English and use of technical language
<p><i>Categories and logical sequences of data, information and knowledge</i> may include:</p>	<ul style="list-style-type: none"> • arguments and rebuttals • categories and sequences traditionally used for the particular type of document being prepared • chronological, alphabetical or operating sequences • facts, observations, conclusions and recommendations • illustrative case studies and other examples • linking and summary statements • recommendations and supporting arguments
<p><i>Relevant enterprise personnel</i> may include:</p>	<ul style="list-style-type: none"> • colleagues/staff in own work section/team members • consultative committees • internal providers of specialist expertise • managers/leaders/coordinators/supervisors • owners • staff in relevant work sections
<p><i>Design elements</i> may include:</p>	<ul style="list-style-type: none"> • capitals and underlining • fonts • headings • illustrations, photographs and other illustrative material for design purposes • justification and alignment • lists and tables • logos, branding, organisational identity requirements • margins and paragraph indentation • page shape • page size • templates • use and amount of colour • use and amount of white space

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Communication - Writing
-------------------------	-------------------------

Co-requisite units

Co-requisite units		

CPCCD03011A Perform dogging

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required to undertake basic dogging work, both in sight and out of sight of the crane operator, for the purpose of shifting loads mechanically.

The unit includes selecting sling types and sizes and maintaining the stability of the load.

Application of the Unit

Application of the unit

This unit of competency supports the attainment of the understanding and skills to use dogging tools and equipment, which may include working with others and as a member of a team.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units

CPCCOHS2001A

Apply OHS requirements, policies and procedures in the construction industry

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare.	<p>1.1. Work instructions and operational details are obtained using relevant <i>information</i>, confirmed and applied for <i>planning and preparation</i> purposes.</p> <p>1.2. <i>Safety (OHS)</i> requirements are followed in accordance with safety plans and policies.</p> <p>1.3. Signage and barricade requirements are identified and implemented.</p> <p>1.4. <i>Tools and equipment</i> selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement.</p> <p>1.5. Materials quantity requirements are calculated in accordance with plans, specifications and <i>quality requirements</i>.</p> <p>1.6. Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use.</p> <p>1.7. <i>Environmental requirements</i> are identified for the project in accordance with environmental plans and regulatory obligations and applied.</p>
2. Select dogging equipment.	<p>2.1. Resources, materials and equipment are selected and inspected for compliance with job specifications.</p> <p>2.2. Job sequencing schedule is communicated with team members and others to ensure coordination.</p> <p>2.3. Load mass is <i>calculated</i> and confirmed using load charts and standard calculations.</p> <p>2.4. Loads in <i>slings</i> and equipment are calculated to suit job requirements.</p>
3. Sling loads.	<p>3.1. <i>Lifting devices</i> are assembled and erected for the movement of load.</p> <p>3.2. Using appropriate <i>load slinging method</i>, loads are slung to <i>crane</i> ready for lifting.</p>
4. Shift loads.	<p>4.1. Loads are shifted ensuring stability and in compliance with work method statement.</p> <p>4.2. Load is directed to landing position using communications in compliance with Australian standards and recognised work practices.</p> <p>4.3. Load is landed in required position on packing or bearers.</p>
5. Remove dogging	<p>5.1. Load shifting equipment is dismantled and inspected</p>

ELEMENT	PERFORMANCE CRITERIA
equipment.	for wear.
6. Clean up.	5.2. Logbook and site records are completed to company requirements. 6.1. Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations, codes of practice and job specification. 6.2. Tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and standard work practices. 6.3. Work completion procedures are applied and relevant personnel notified that work is finished.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- communication skills to:
 - determine requirements
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - follow instructions
 - read and interpret:
 - documentation from a variety of sources
 - drawings and specifications
 - report faults
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication, such as hand signals
- evaluating own actions and making judgments about performance and necessary improvements
- identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials
- organisational skills, including the ability to plan and set out work
- recognising procedures, following instructions, responding to change and contributing to workplace responsibilities, such as current work site environmental

REQUIRED SKILLS AND KNOWLEDGE

and sustainability frameworks or management systems

- teamwork skills to coordinate own work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technological skills to:
 - use a range of mobile technology, such as two-way radio and mobile phones
 - voice and hand signals to access and understand site-specific instructions.

Required knowledge

Required knowledge for this unit is:

- crane operations and limitations
- designs and functions of lifting equipment
- dogging equipment
- dogging techniques
- elevated work platforms
- general construction terminology
- job safety analysis (JSA) and safe work method statements
- logbooks
- material safety data sheets (MSDS)
- materials storage and environmentally friendly waste management
- plans, drawings and specifications
- processes for the calculation of material requirements
- quality requirements
- relevant Acts, regulations and codes of practice
- safe working at heights and fall arrest
- safe working load tags
- signalling methods and communications
- types, characteristics, uses and limitations of plant, tools and equipment
- weather and ground considerations
- workplace and equipment safety requirements.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- locate, interpret and apply relevant information, standards and specifications
- comply with site safety plan and OHS legislation, regulations and codes of practice applicable to workplace operations
- comply with organisational policies and procedures including quality requirements
- safely and effectively operate and use tools, plant and equipment
- communicate and work effectively and safely with others
- as a minimum, read tags, sling, load, direct and land loads in conjunction with a slewing mobile crane with a telescopic boom and a winch, out of sight for:
 - rigid heavy loads to two thirds capacity of the crane
 - luff movements, boom retract and boom extend, slew right and slew left, winch up and down in combination
 - a flexible load with a minimum of three lifting points
 - using hand signals and whistle from minimum radius to maximum radius.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements

EVIDENCE GUIDE

and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the mandatory task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

EVIDENCE GUIDE

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Information includes:

- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions,

RANGE STATEMENT

where specified

- MSDS
- memos
- regulatory and legislative requirements pertaining to performing dogging
- relevant Australian standards
- safe work procedures relating to performing dogging
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.
- assessment of conditions and hazards
- determination of work requirements and safety plans and policies
- equipment defect identification
- work site inspection.
- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- handling activities that may require the assistance of others or the use of manual or mechanical lifting devices where size, weight or other issues, such as a disability are a factor
- hazard control
- hazardous materials and substances
- organisational first aid
- PPE prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
 - earth leakage boxes
 - lighting
 - power cables, including overhead service trays, cables and conduits
 - restricted access barriers
 - surrounding structures
 - traffic control
 - trip hazards
 - work site visitors and the public

Planning and preparation include:

Safety (OHS) is to be in accordance with state and territory legislation and regulations and project safety plan and may include:

RANGE STATEMENT

- working at heights
 - working in confined spaces
 - working in proximity to others
 - use of firefighting equipment
 - use of tools and equipment
 - workplace environmental requirements and safety.
- Tools and equipment*** include:
- brick cages
 - kibbles
 - personnel cages
 - rescue cages
 - rubbish bins
 - spreader bars and beams.
- Quality requirements*** include:
- internal company quality policy and standards
 - manufacturer specifications, where specified
 - relevant regulations, including Australian standards
 - workplace operations and procedures.
- Environmental requirements*** include:
- clean-up management
 - noise
 - vibration
 - waste management.
- Calculations*** include:
- delivery dockets
 - load charts
 - load share
 - pre-cast compliance charts
 - safe working loads
 - standard calculations.
- Slings*** include:
- chain
 - flexible steel wire rope
 - natural or synthetic fibre.
- Lifting devices:***
- include:
 - eye bolts
 - lifting clutches
 - shackles
 - snatch blocks
 - tags
 - may include:
 - collared eye bolts

RANGE STATEMENT

- equalizing sheaves
- lifting lugs
- rigging screws
- turn buckles.

Load slinging methods include:

- straight sling
- adjustable sling
- reeved sling
- inclined sling.

Cranes include:

- fixed cranes
- hydraulic mobile cranes
- lattice boom mobile cranes
- slewing cranes
- tower cranes.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area

CPCCOHS2001A Apply OHS requirements, policies and procedures in the construction industry

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit of competency specifies the outcomes required to carry out OHS requirements through safe work practices at any on or off-site construction workplace. It requires the performance of work in a safe manner through awareness of risks and work requirements, and the planning and performance of safe work practices with concern for personal safety and the safety of others.

Application of the Unit

Application of the unit This unit of competency covers fundamental OHS necessary to undertake work tasks within any sector in the construction industry. It includes the identification of hazardous materials, including asbestos, and compliance with legislated work safety practices. It does not cover removal of asbestos, which is a licensed activity.

The unit relates directly to the general induction training program specified by the *National Code of Practice for Induction for Construction Work* (ASCC 2007) required to enter a construction work site. Completion of unit CPCCOHS1001A covers this requirement.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and assess risks.	<p>1.1. Hazards in the work area are identified, assessed and reported to designated personnel.</p> <p>1.2. Safety risks in the work area are identified, assessed and reported to designated personnel.</p> <p>1.3. Safe work practices, duty of care requirements and safe work instructions are followed for controlling risks.</p> <p>1.4. OHS, hazard, accident or incident reports are contributed to according to workplace procedures and Australian government and state or territory OHS legislation and relevant information.</p>
2. Identify hazardous materials and other hazards on work sites.	<p>2.1. Hazardous materials on a work site are correctly identified and, if appropriate, handled and used according to company and legislated procedures.</p> <p>2.2. Measures for controlling risks and construction hazards are applied effectively and immediately.</p> <p>2.3. Hazardous materials that have safety implications for self and other workers are secured immediately they are identified, using appropriate signs and symbols.</p> <p>2.4. Asbestos-containing materials are identified on a work site and reported to designated personnel.</p>
3. Plan and prepare for safe work practices.	<p>3.1. Correct personal protective equipment and clothing for each area of construction work are identified, worn, correctly fitted, used and stored according to enterprise procedures.</p> <p>3.2. Selection of tools, equipment and materials, and organisation of tasks are performed in conjunction with other personnel on site and in accordance with enterprise procedures.</p> <p>3.3. Required barricades and signage are determined and erected at the appropriate site location.</p> <p>3.4. Material safety data sheets (MSDS), and job safety analysis (JSA) and safe work method statements relevant to the work to be carried out are identified and applied.</p>
4. Apply safe work practices.	<p>4.1. Tasks are performed in a manner that is safe for operators, other personnel and the general community in accordance with legislative requirements, and enterprise policies and procedures.</p> <p>4.2. Plant and equipment guards are used in accordance with manufacturer specifications, work site</p>

ELEMENT	PERFORMANCE CRITERIA
5. Follow emergency procedures.	<p>regulations and Australian standards where applicable.</p> <p>4.3. Procedures and relevant authorities for reporting hazards, incidents and injuries are used.</p> <p>4.4. Prohibited tools and equipment in areas with identified asbestos are recognised and not used.</p> <p>4.5. Work site safety signs and symbols are identified and followed.</p> <p>4.6. Work site area is cleared and maintained to prevent and protect self and others from incidents and accidents and to meet environmental requirements.</p> <p>5.1. Designated personnel are identified in the event of an emergency for communication purposes.</p> <p>5.2. Safe workplace procedures for dealing with accidents, various types of fire and other emergencies are followed, including identification or use, if appropriate, of fire equipment within scope of responsibilities.</p> <p>5.3. Emergency response and evacuation procedures are known, practised and carried out effectively when required.</p> <p>5.4. Emergency first aid treatment of minor injuries is carried out correctly and details of any treatment administered are reported accurately to designated personnel as soon as possible.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- ability to accurately recognise OHS hazards, including asbestos and take all opportunities to alleviate safety problems in a variety of construction work sites and environments
- capacity to deal calmly and effectively with any potential safety problems and work closely with other team members and supervisors to ensure safe working conditions are maintained

REQUIRED SKILLS AND KNOWLEDGE

- communication skills to:
 - determine and report hazards and risks
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - follow instructions
 - read and interpret:
 - MSDS, JSA and safe work method statements
 - other relevant documentation
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication, such as hand signals
 - written skills to contribute to reports
- identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials
- organisational skills, including the ability to plan and set out work
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technological skills to:
 - use a range of mobile technology, such as two-way radio and mobile phones
 - voice and hand signals to access and understand site-specific instructions.

Required knowledge

Required knowledge for this unit is:

- asbestos management code prevention of exposure
- basic first aid procedures
- common construction industry terminology
- common workplace safety hazards and risks and procedures for reporting these to designated personnel
- construction industry communications equipment and use
- construction industry health and safety signage
- emergency response and evacuation procedures
- JSA and safe work method statements
- MSDS
- OHS hierarchy of control and role of OHS committees and representatives
- relevant legislation, regulations and workplace requirements relating to OHS, including hazard reduction and personal safety, including duty of care responsibilities, workers' compensation and injury management requirements
- safe manual handling techniques
- safe work practices in normal working environment
- safety equipment, policies and requirements for working in confined spaces and at

REQUIRED SKILLS AND KNOWLEDGE

height, including on rooves

- tools and equipment prohibited for use near identified asbestos-containing materials (ACM)
- types of fires and basic firefighting equipment
- types, possible location and risks of ACM, including serpentine and amphibole groups, and their use in common building materials
- types, purpose and use of construction industry personal protective equipment and clothing
- workplace and equipment safety requirements.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- correctly locate, interpret and apply relevant information, standards and specifications
- comply with a site safety plan, organisational policies, OHS regulations and state and territory legislation applicable to workplace operations, including quality requirements
- correctly identify ACM and policies and procedures for reporting this to designated personnel
- effectively communicate and work safely with others
- apply general procedures for responding to incidents and reporting hazards and injuries
- select and use firefighting equipment to extinguish a simulated mechanical fire
- evacuate a site through simulated response to an emergency, complying with workplace procedures.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the mandatory task requirements

EVIDENCE GUIDE

- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct,

EVIDENCE GUIDE

indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Hazards include:

- chemical spills
- electrical safety work in confined spaces
- excavations, including trenches
- falling objects
- fires
- gases
- hazardous materials
- high or very low temperatures
- HIV and other infectious diseases
- liquids under pressure
- manual handling
- moving machinery and equipment
- noise, dust and vapours
- overhanging beams
- protrusions
- sharp equipment
- traffic
- ultraviolet (UV) radiation
- unplanned collapse

RANGE STATEMENT

Designated personnel to be contacted in case of an emergency, accident, fire or to report a risk such as identification of ACM are:

- working at heights.
- designated safety officers, determined by the enterprise, who have undertaken specific safety response training
- managers or other senior personnel
- personnel competent and/or licensed in the safe handling of asbestos
- supervisors.

Safe work practices:

- include:
 - day to day observation of OHS policies and procedures
 - emergency procedures
 - risk assessment
 - use of basic firefighting equipment
- relate to:
 - access to site amenities, such as drinking water and toilets
 - general requirements for safe use of plant and equipment
 - general requirements for use of personal protective equipment and clothing
 - housekeeping to ensure a clean, tidy and safer work area
 - no drugs and alcohol at work
 - preventing bullying and harassment
 - smoking in designated areas
 - storage and removal of debris.

Duty of care requirements:

- relate to:
 - legal responsibility under duty of care to do everything reasonably practicable to protect others from harm
 - relevant state and territory OHS requirements and include employers and self-employed persons, persons in control of the work site, construction supervisors, designers, manufacturers and suppliers, construction workers, subcontractors and inspectors
- may relate to:
 - own responsibilities to comply with safe work practices, including activities that

RANGE STATEMENT

require licences, tickets or certificates of competency.

Incidents include:

- accidents resulting in personal injury or damage to property
- near misses or dangerous occurrences that do not cause injury but may pose an immediate and significant risk to persons or property, and need to be reported so that action can be taken to prevent recurrence, for example:
 - breathing apparatus malfunctioning to the extent that the user's health is in danger
 - collapse of the floor, wall or ceiling of a building being used as a workplace
 - collapse or failure of an excavation more than 1.5 metres deep (including any shoring)
 - collapse or partial collapse of a building or structure
 - collapse, overturning or failure of the load bearing of any scaffolding, lift, crane, hoist or mine-winding equipment
 - damage to or malfunction of any other major plant
 - electric shock
 - electrical short circuit, malfunction or explosion
 - uncontrolled explosion, fire or escape of gas, hazardous substance or steam
 - any other unintended or uncontrolled incident or event arising from operations carried on at a workplace.

Australian government and state or territory OHS legislative requirements include:

- Australian standards
- construction industry OHS standards and guidelines
- duty of care
- health and safety representatives, committees and supervisors
- JSA and safe work method statements
- licences, tickets or certificates of competency
- National Code of Practice for Induction Training for Construction Work
- national safety standards

RANGE STATEMENT

Information includes:

- OHS and welfare Acts and regulations
- safety codes of practice.
- diagrams or sketches
- emergency situation contacts
- evacuation plans
- instructions issued by authorised organisational or external personnel
- labels
- manufacturer specifications and instructions
- memos
- MSDS
- organisation work specifications and requirements
- plans and specifications
- regulatory and legislative requirements, such as Acts, regulations and codes of practice
- relevant Australian standards
- reports of near misses or accidents
- safe work procedures or equivalent documentation
- safety meeting minutes
- signage
- verbal or written and graphical instructions
- work bulletins
- work schedules.

Hazardous materials include:

- ACM
- cleaning chemicals, including those in pressurised containers
- glues
- insulation materials
- solvents
- treated timber products.

Measures for controlling risk or minimising hazards in accordance with the hierarchy of control include:

- elimination
- substitution
- isolation
- engineering control
- administrative control
- personal protective equipment.

Signs and symbols include:

- emergency information signs (exits, equipment, first aid)
- fire signs (location of fire alarms and

RANGE STATEMENT

	<ul style="list-style-type: none">firefighting equipment)hazard identification, facility or location signsregulatory signs (e.g. prohibition, mandatory and limitation or restriction), such as hazard signs (danger and warning)safety tags and lockout (danger tags, out of service tags)site safety, directional, traffic and warning signs and symbols.
<i>Asbestos-containing materials are identified:</i>	<ul style="list-style-type: none">includes recognising common types of ACM that may be found in construction materials and buildingscovers asbestos rope/fabrics, asbestos cement sheeting, asbestos cement piping and lagging on pipes, bituminous waterproof membrane, fire doors, electrical switchboards, millboard, and sheeting under ceramic or vinyl floor tiles in wet areas.
Asbestos-containing materials are <i>reported</i> to:	<ul style="list-style-type: none">person in control of the workplace as set out in the relevant Asbestos Management Code.
<i>Personal protective equipment</i> is to include:	<ul style="list-style-type: none">apronsarm guardscapsdust mask/respiratorsear muffs/plugsgloveshard hatshigh visibility retro reflective vestsjacketsoverallssafety glasses/gogglessteel capped bootsUV protective clothing and sunscreen.
<i>Tools and equipment</i> include:	<ul style="list-style-type: none">firefighting equipmentfirst aid kitladders and work platformspersonal protective equipment.
<i>Materials</i> include:	<ul style="list-style-type: none">first aid materials suitable for emergency first aid treatment of minor injuries.
<i>Prohibited tools and equipment</i> that cannot be used near identified	<ul style="list-style-type: none">high-speed abrasive power and pneumatic tools, high pressure water cleaners, compressed

RANGE STATEMENT

ACM include:

air or abrasive blasting

- any vacuum cleaning equipment not specifically designed for safe work with asbestos.

Environmental requirements are to cover workplace quality management and include:

- clean-up protection
- stormwater protection
- waste management.

Types of fire includes:

- electrical, chemical, gas, mechanical, paper, wood or natural fire.

Fire equipment includes:

- breathing apparatus
- fire extinguishers
- fire hydrant and hoses
- fire reel
- fire truck
- manual firefighting instruments, such as fire blankets.

Emergency response and evacuation procedures include:

- emergencies, such as fire, toxic and/or flammable vapours emission, vehicle/mobile plant accident, structural collapse, chemical spill and injury to personnel
- extinguishing fires, organisational first aid requirements and evacuation.

Unit Sector(s)

Unit sector

Construction

Co-requisite units

Co-requisite units

Nil

Functional area

Functional area

CPCCR13012A Perform basic rigging

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit of competency specifies the outcomes required to erect or install permanent steel structures, dismantle structural steel and move or locate plant and equipment using a range of basic rigging and dogging techniques. It includes load distribution and calculation.

Application of the Unit

Application of the unit This unit supports the attainment of skills and knowledge to perform rigging duties for erection and installation of steel structures and move plant and equipment, which includes working with others and as a member of a team.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units

CPCCCDO3011A	Perform dogging
CPCCOHS2001A	Apply OHS requirements, policies and procedures in the construction industry

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare.	<p>1.1. Work instructions, including plans, specifications, quality requirements and operational details are obtained for relevant <i>information</i>, confirmed and applied for <i>scope of work</i>.</p> <p>1.2. <i>Safety (OHS)</i> requirements are followed in accordance with safety plans and policies.</p> <p>1.3. Signage and barricade requirements are identified and implemented.</p> <p>1.4. Plant, <i>tools and equipment</i> selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement.</p> <p>1.5. Material quantity requirements are calculated in accordance with plans, specifications and <i>quality requirements</i>.</p> <p>1.6. Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use.</p> <p>1.7. <i>Environmental requirements</i> are identified for the project in accordance with environmental plans and <i>statutory and regulatory authority</i> obligations and applied.</p>
2. Select equipment.	<p>2.1. Resources, materials and equipment are selected and inspected for compliance with job specifications.</p> <p>2.2. Lifting equipment is inspected according to manufacturer specifications.</p> <p>2.3. Lifting equipment identified as inconsistent with manufacturer specifications is labelled, rejected and disposed of to prevent its use in any circumstance.</p>
3. Connect equipment.	<p>3.1. Loads and slings are slung to protect the load and associated equipment.</p> <p>3.2. Whole or part loads are secured to prevent uncontrolled movement.</p> <p>3.3. Slings, or parts of slings, are attached to the load and positioned to ensure safe movement.</p> <p>3.4. Slings, or parts of slings, are attached to hook while the hoist wire is vertical.</p> <p>3.5. Tag lines are attached to the load where specified.</p> <p>3.6. Test lifts are performed to ensure safe and secure movement of the load where specified.</p>

ELEMENT	PERFORMANCE CRITERIA
4. Move and position loads.	<p>4.1. Load destination is determined and landing area prepared to accept the load.</p> <p>4.2. Lifting or pulling device is assembled and erected where specified.</p> <p>4.3. Load is safely moved to required destination and secured in position to client specifications or job requirements.</p> <p>4.4. Standard communication signals are used to coordinate safe movement of the load.</p>
5. Remove rigging equipment.	<p>5.1. Lifting/moving equipment and packing are dismantled, lowered and inspected for wear.</p> <p>5.2. Logbook and site records are completed to company requirements.</p>
6. Clean up.	<p>6.1. Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations, codes of practice and job specification.</p> <p>6.2. Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and standard work practices.</p> <p>6.3. Work completion procedures are applied and relevant personnel notified that work is finished.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- communication skills to:
 - determine requirements
 - follow instructions
 - notify completion of work
 - read and interpret:
 - documentation from a variety of sources
 - drawings and specifications

REQUIRED SKILLS AND KNOWLEDGE

- report faults
- use language and concepts appropriate to cultural differences
- use and interpret non-verbal communication, such as hand signals
- written skills to complete logbooks, site records and relevant work completion procedures
- identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials
- numeracy skills to apply calculations
- organisational skills, including the ability to plan and set out work
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technological skills to:
 - use a range of mobile technology, such as two-way radio and mobile phones
 - voice and hand signals to access and understand site-specific instructions.

Required knowledge

Required knowledge for this unit is:

- basic rigging equipment and techniques
- crane operations and limitations
- designs and functions of lifting equipment
- general construction terminology
- job safety analysis (JSA) and safe work method statements
- material safety data sheets (MSDS)
- materials storage and environmentally friendly waste management
- plans, drawings and specifications
- plant, tools and equipment types, characteristics, uses and limitations
- processes for the calculation of material requirements
- relevant Acts, regulations and codes of practice
- signalling methods and communications
- workplace and equipment safety requirements.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the

EVIDENCE GUIDE

Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- locate, interpret and apply of relevant information, standards and specifications
- comply with site safety plan and OHS legislation, regulations and codes of practice applicable to workplace operations
- comply with organisational policies and procedures, including quality requirements
- safely and effectively use tools, plant and equipment
- communicate and work effectively and safely with others
- complete one of the following:
 - install and use a fall arrest system to sling, receive, place and brace a minimum 16 square metre module of structural steel in the correct sequence a minimum of 5 metres high
 - set up, place, install and brace perimeter safety screen and jump for two floors and a loading bay
 - skid, locate and install heavy industrial equipment using winches and creeper skids for at least one tonne of plant.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

EVIDENCE GUIDE

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the mandatory task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances

EVIDENCE GUIDE

assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge

- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Information includes:

- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions, where specified
- MSDS
- memos
- regulatory and legislative requirements pertaining to performing basic rigging
- relevant Australian standards
- safe work procedures relating to performing

RANGE STATEMENT

Scope of work:

basic rigging

- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.
- planning and preparation includes work site inspection, equipment defect identification, assessment of conditions and hazards and determination of work requirements
- calculations include load charts, fleet angles, diverter sheaves, lead loads, head loads, load angle factors, multiple fall, load share, pre-cast compliance charts and safe working loads
- sling types include chain, flexible steel wire rope, and natural or synthetic fibre
- load slinging methods are to include straight sling, adjustable sling, reeved sling and inclined sling
- lifting devices include shackles, turn buckles, jacks, chain winches, hand operated creeper winches, chain blocks, pulley blocks, come alongs, air winches, trolleys, eye bolts, rigging screws, lifting lugs, lifting clutches and snatch blocks
- types of cranes include fixed cranes, tower cranes, hydraulic mobile cranes, lattice boom mobile cranes, slewing cranes, non-slewing cranes and gantry cranes.
- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- handling activities that may require the assistance of others or the use of manual or mechanical lifting devices where size, weight or other issues, such as a disability are a factor
- hazard control
- hazardous materials and substances, including cement and curing agents
- organisational first aid
- PPE prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including the conduct of operational risk assessment and

Safety (OHS) is to be in accordance with state and territory legislation and regulations and project safety plan and may include:

RANGE STATEMENT

treatments associated with:

- earth leakage boxes
- lighting
- power cables, including overhead service trays, cables and conduits
- restricted access barriers
- surrounding structures
- traffic control
- trip hazards
- working at heights
- work site visitors and the public
- working in confined spaces
- working in proximity to others
- use of firefighting equipment
- use of tools and equipment
- workplace environmental requirements and safety.

Tools and equipment:

- include:
 - automatic levels
 - drifts
 - hammers
 - podgers spanners
 - shifting spanners
 - sledge hammers
 - spirit levels
 - tape measures
 - wedges
 - wrenches
- may include:
 - angle grinders
 - elevated work platforms
 - explosive power tools
 - laser levels
 - oxy-acetylene equipment
 - pneumatic tools
 - scaffolding
 - skids
 - water levelling equipment.

RANGE STATEMENT

Quality requirements include relevant regulations, including:

- Australian standards
- internal company quality policy and standards
- manufacturer specifications
- workplace operations and procedures.

Environmental requirements include:

- clean-up management
- dust and noise
- vibration
- waste management.

Statutory and regulatory authorities include:

- federal, state and local authorities administering the applicable Acts, regulations and codes of practice.

Unit Sector(s)

Unit sector

Construction

Functional area

Functional area

CPCSC2002A Erect and dismantle basic scaffolding

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required to erect and dismantle a range of modular scaffolding systems to provide work platforms for construction purposes.

It includes edge protection, access ways and falsework (scaffold support systems for formwork).

Application of the Unit

Application of the unit

This unit supports the attainment of skills and knowledge to erect and dismantle a range of basic scaffolding systems, which includes working with others and as a member of a team.

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units

CPCCOHS2001A

Apply OHS requirements, policies and procedures in the construction industry

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare.	<p>1.1. Work instructions, including plans, specifications, quality requirements and operational details are obtained from relevant <i>information</i>, confirmed and applied to the <i>scope of work</i> performed.</p> <p>1.2. <i>Safety (OHS)</i> requirements are followed in accordance with safety plans and policies.</p> <p>1.3. Signage and barricade requirements are identified and implemented.</p> <p>1.4. Plant, <i>tools and equipment</i> selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults or concerns regarding <i>quality requirements</i> are rectified or reported prior to commencement.</p> <p>1.5. Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use.</p> <p>1.6. <i>Environmental requirements</i> are identified for the project in accordance with environmental plans and <i>statutory and legislative authority</i> obligations and applied.</p>
2. Whip, tie, splice and inspect ropes.	<p>2.1. Whipping cord and fibre rope are inspected for damage and wear.</p> <p>2.2. Designated rope ends are whipped in accordance with regulations and project specifications.</p> <p>2.3. Designated rope ends are spliced in accordance with regulations and project specifications.</p> <p>2.4. Bends and hitches are applied and inspected in accordance with project specifications.</p>
3. Erect scaffolding.	<p>3.1. Purpose for scaffolding is confirmed and associated work tasks are identified.</p> <p>3.2. Expected loading on scaffold and supporting structure is determined using load tables and manufacturer specifications.</p> <p>3.3. Site access and egress routes are identified.</p> <p>3.4. Scaffolding and components are selected and inspected, and damaged components are labelled and rejected.</p> <p>3.5. Sole board/base plate is selected in accordance with regulations, legislation, codes of practice and manufacturer specifications.</p> <p>3.6. Scaffolding is set out and erected in accordance with</p>

ELEMENT	PERFORMANCE CRITERIA
4. Inspect, repair and alter erected scaffolding.	<p>regulatory and manufacturer requirements.</p> <p>3.7. Static lines are erected and installed where specified in accordance with regulatory requirements.</p> <p>3.8. Lifting device is assembled and erected where specified.</p> <p>4.1. Erected modular scaffolding is inspected for damage, corrosion, wear and compatibility.</p> <p>4.2. Current use of scaffolding is checked against original design and is in accordance with regulations and specifications.</p> <p>4.3. Scaffolding stability is inspected and confirmed.</p> <p>4.4. Alteration or repair is carried out where specified.</p> <p>4.5. Inspection log and handover is completed and dated, ready for signing by a certified scaffolder.</p>
5. Dismantle scaffolding.	<p>5.1. Scaffolding is isolated and appropriately signed and barricaded to ensure safe dismantling.</p> <p>5.2. Scaffolding is dismantled using reverse procedure as for erection.</p>
6. Clean up.	<p>6.1. Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations, codes of practice and job specification.</p> <p>6.2. Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and standard work practices.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills for this unit are:

- communication skills to:
 - determine requirements
 - follow instructions
 - read and interpret:

REQUIRED SKILLS AND KNOWLEDGE

- documentation from a variety of sources
- drawings and specifications
- report faults
- use language and concepts appropriate to cultural differences
- use and interpret non-verbal communication, such as hand signals
- written skills to complete inspection log and handover
- identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials
- numeracy skills to apply measurements and calculations
- organisational skills, including the ability to plan and set out work
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technological skills to:
 - use a range of mobile technology, such as two-way radio and mobile phones
 - voice and hand signals to access and understand site-specific instructions.

Required knowledge

Required knowledge for this unit is:

- general construction terminology
- job safety analysis (JSA) and safe work method statements
- lifting devices
- material safety data sheets (MSDS)
- materials storage and environmentally friendly waste management
- plans, drawings and specifications
- plant, tools and equipment types, characteristics, uses and limitations
- processes for the calculation of material requirements
- quality requirements
- relevant Acts, regulations and codes of practice
- scaffolding equipment and techniques
- workplace and equipment safety requirements.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- locate, interpret and apply of relevant information, standards and specifications
- comply with site safety plan and OHS legislation, regulations and codes of practice applicable to workplace operations
- comply with organisational policies and procedures, including quality requirements
- safely and effectively use tools, plant and equipment
- communicate and work effectively and safely with others
- complete whipping, splicing, tying and inspecting of five fibre ropes in accordance with regulations
- complete planning, erection and dismantling of a modular scaffolding system, in accordance with JSA and safe work method statements and regulations, including a minimum of:
 - five bays with an internal and external return
 - four lifts, including ties
 - ladder and stair access
 - fall and edge protection.

Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements and environmental constraints.

EVIDENCE GUIDE

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the mandatory task requirements
- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry related systems information.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role

EVIDENCE GUIDE

and the practical requirements of the workplace

- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Information includes:

- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions, where specified
- MSDS

RANGE STATEMENT

Scope of work:

- memos
- regulatory and legislative requirements pertaining to erecting and dismantling modular scaffolding
- relevant Australian standards
- safe work procedures relating to erecting and dismantling modular scaffolding
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.
- planning and preparation includes work site inspection, equipment defect identification, assessment of conditions and hazards, and determination of work requirements
- erection of scaffolding is to include placement, sequencing, squaring, levelling, tying to structure, and the reverse for dismantling
- purposes of scaffolding include provision of work platforms, edge protection, access ways, falsework, grandstands and covered walkways
- lifting devices include cantilevered hoists and gin wheels
- establishment of footings includes review of JSA and safe work method statements to determine the bearing capacity of ground or working surfaces
- whipping methods include common, west countryman, American and sail makers
- splicing methods include end splice and eye splice
- types of bends and hitches include clove hitch around a tube, rolling hitch around a tube, single bow line, timber hitch and half hitch around a plank, and sheet bend to another rope
- alteration and repair may be required due to storm damage, accidents, misuse and process changes.
- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- handling activities that may require the assistance of others or the use of manual or

Safety (OHS) is to be in accordance with state and territory legislation and regulations and project safety plan and may include:

RANGE STATEMENT

mechanical lifting devices where size, weight or other issues, such as a disability are a factor

- hazard control
- hazardous materials and substances, including cement and curing agents
- organisational first aid
- PPE prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
 - earth leakage boxes
 - lighting
 - power cables, including overhead service trays, cables and conduits
 - restricted access barriers
 - surrounding structures
 - traffic control
 - trip hazards
 - working at heights
 - work site visitors and the public
 - working in confined spaces
 - working in proximity to others
- use of firefighting equipment
- use of tools and equipment
- workplace environmental requirements and safety.
- include:
 - adjustable base plates
 - bends and hitches
 - box spanners
 - braces
 - bracket scaffolds (tank and formwork)
 - cantilevered hoists (materials only with maximum capacity of 500kg)
 - couplers and accessories
 - fibre ropes
 - guard rails
 - hammers
 - ledgers

Tools and equipment:

RANGE STATEMENT

- mesh guards
- mid rails
- modular and prefabricated scaffolds
- podgers hammers
- prefabricated components
- scaffold belts
- scaffolding planks
- spirit levels
- stairs or ladders
- standards
- steel and aluminium tubes
- tape measures
- torpedo levels
- transoms
- wire nips
- wrenches
- may include:
 - gin wheels
 - safety nets
 - shovels
 - spanners
 - static lines.

Quality requirements include relevant regulations, including:

- Australian standards
- internal company quality policy and standards
- manufacturer specifications
- workplace operations and procedures.

Environmental requirements include:

- clean-up management
- dust and noise
- vibration
- waste management.

Statutory and regulatory authorities include:

- federal, state and local authorities administering the applicable Acts, regulations and codes of practice.

Unit Sector(s)

Unit sector

Construction

Functional area

Functional area

HLTFA201B Provide basic emergency life support

Modification History

Not Applicable

Unit Descriptor

Descriptor

This unit of competency describes the skills and knowledge required to recognise and respond to life threatening emergencies using basic life support measures only

Application of the Unit

Application

The skills and knowledge described here enable a first aider to provide an initial response to an emergency in line with practised actions and Australian Resuscitation Council (ARC) Guidelines and/or state/territory regulations, legislation and policies and accepted industry guidelines

Application should be contextualised as required to reflect workplace and community requirements relating to specific risks and hazards and associated injuries

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills

This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT

1. Respond in an emergency situation

PERFORMANCE CRITERIA

- 1.1 Recognise emergency situation and identify *hazards* to health and safety of self and others
- 1.2 Minimise immediate risk to health and safety of self, casualty and others by isolating any hazard(s)
- 1.3 Assess casualty and identify injuries, illnesses and conditions
- 1.4 Assess the need for assistance

ELEMENT**PERFORMANCE CRITERIA**

2. Apply identified first aid procedures

- 2.1 Reassure casualty in a caring and calm manner and make comfortable using available resources
- 2.2 Determine and explain the nature of *casualty's injury/condition* and relevant first aid procedures to provide comfort
- 2.3 Seek consent from casualty or significant other prior to applying first aid management
- 2.4 Respond to the casualty in a culturally aware, sensitive and respectful manner
- 2.5 Use *identified first aid procedures* as required in accordance with established first aid principles, policies and procedures, ARC Guidelines and/or state/territory regulations, legislation and policies and industry requirements
- 2.6 Use safe manual handling techniques as required

3. Communicate details of the incident

- 3.1 Request ambulance support and/or appropriate medical assistance according to relevant circumstances and using available means of communication
- 3.2 Accurately convey assessment of casualty's condition and first aid procedures undertaken to emergency services/relieving personnel
- 3.3 Calmly provide information to reassure casualty, adopting a communication style to match the casualty's level of consciousness
- 3.4 Provide reports, where applicable, in a timely manner, presenting all relevant facts according to established procedures
- 3.5 Maintain confidentiality of records and information in line with privacy principles and statutory and/or organisation policies

4. Evaluate own performance

- 4.1 Seek feedback from *appropriate clinical expert*
- 4.2 Recognise the possible psychological impacts on rescuers of involvement in critical incidents
- 4.3 Participate in debriefing/evaluation as appropriate to improve future response and address individual needs

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes knowledge of:

- Awareness of stress management techniques and available support
- Basic anatomy and physiology relating to:
 - absence of signs of life:
 - unconscious
 - unresponsive
 - not moving
 - not breathing normally
 - choking/airway obstruction
 - severe bleeding
 - shock
- Chain of survival
- Duty of care requirements
- First aid procedures for:
 - airway management
 - bleeding control
 - care of unconscious
 - casualty with no signs of life
 - chest pain
 - infection control as it relates to standard precautions
 - respiratory distress, including asthma
 - severe allergic reaction
 - shock
- How to access emergency response support services/personnel
- Need to be culturally aware, sensitive and respectful

REQUIRED SKILLS AND KNOWLEDGE

- Own skills and limitations
- Privacy and confidentiality requirements
- Relevant workplace hazards
- State/territory regulations, legislation and policies, ARC Guidelines and accepted industry practice relating to currency of skill and knowledge
- Understanding of the use of an Automated External Defibrillator (AED), including when to use and when not to

Essential skills:

It is critical that the candidate demonstrate the ability to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes the ability to:

- Assess vital signs and responses of casualty
- Call an ambulance and/or medical assistance, according to circumstances and report casualty's condition
- Demonstrate first aid casualty management principles:
 - assess and minimise danger
 - check for response
 - maintain casualty's airway, breathing and circulation
- Demonstrate:
 - consideration of the welfare of the casualty
 - correct procedures for CPR on a resuscitation manikin
 - implementation of standard precautions
 - safe manual handling of casualty
- Identify and minimise hazards to health and safety of self and others in the immediate workplace or community environment
- Plan an appropriate first aid response in line with established first aid principles, policies and procedures, ARC Guidelines and/or state/territory regulations, legislation and policies and industry requirements and respond appropriately to contingencies in line with own level of skills and knowledge
- Report details of emergency incident and first aid provided

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the

EVIDENCE GUIDE

Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

- Critical aspects of assessment:*
- The individual being assessed must provide evidence of specified essential knowledge as well as skills
 - Competence should be demonstrated working individually and, where appropriate, as part of a first aid team.
 - Consistency of performance should be demonstrated over the required range of situations relevant to the workplace or community setting
 - Currency of CPR knowledge and skills is to be demonstrated in line with state/territory regulations, legislation and policies, ARC and industry guidelines
- Context and resources required for assessment:*
- For assessment purposes, demonstration of skills in CPR procedures requires using a model of the human body (resuscitation manikin) in line with Australian Resuscitation Council Guidelines
- Access and equity considerations:*
- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
 - All workers should develop their ability to work in a culturally diverse environment
 - In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
 - Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities
- Related unit:*
- This unit stands alone and incorporates the content of unit HLT CPR201B Perform CPR

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Condition of the casualty must include, but is not limited to:

- Severe bleeding
- Absence of signs of life:
 - unconscious
 - unresponsive
 - not moving
 - not breathing normally
- Choking/airway obstruction
- Severe allergic reaction

Identified first aid procedures must include:

- Cardiopulmonary Resuscitation (CPR)
- Control severe bleeding
- Airway management
- Provide assistance with self-administered medications, such as auto-injector, puffer/inhaler in line with state/territory regulations, legislation and policies and any available medical/pharmaceutical instructions
- Care of the unconscious person

RANGE STATEMENT

Resources and equipment may include:

- First aid kit
- Resuscitation mask or barrier
- Casualty's medication
- Manikin
- AED (if available)
- Auto-injector
- Puffer/inhaler

A hazard is:

A source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these

Appropriate clinical expert may include:

- Supervisor/manager
- Ambulance officer/paramedic
- Other medical/health worker

Unit Sector(s)

Not Applicable

HLTFA301C Apply first aid

Modification History

Not Applicable

Unit Descriptor

Descriptor

This unit of competency describes the skills and knowledge required to provide first aid response, life support, management of casualty(s), the incident and other first aiders, until the arrival of medical or other assistance

Application of the Unit

Application

These skills and knowledge may be applied in a range of situations, including community and workplace settings

Training Package users should ensure implementation is consistent with any specific workplace and/or relevant legislative requirements in relation to first aid, including State/Territory requirements for currency

Application of these skills and knowledge should be contextualised as required to address specific industry, enterprise or workplace requirements and to address specific risks and hazards and associated injuries

A current Senior First Aid, Workplace Level 2 or Level 2 qualification may provide evidence of skills and knowledge required by this competency unit. However, as with all evidence of competence, evidence must be assessed against the requirements specified in the competency unit

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills

This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT

1. Assess the situation

PERFORMANCE CRITERIA

1.1 Identify assess and minimise *hazards* in the situation that may pose a risk of injury or illness to self and others

1.2 Minimise immediate *risk* to self and casualty's health and safety by controlling any hazard in accordance with occupational health and safety requirements

1.3 Assess casualty and identify injuries, illnesses and conditions

ELEMENT

2. Apply first aid procedures

PERFORMANCE CRITERIA

2.1 Calmly provide information to reassure casualty, adopting a communication style to match the casualty's level of consciousness

2.2 Use available *resources and equipment* to make the casualty as comfortable as possible

2.3 Respond to the casualty in a culturally aware, sensitive and respectful manner

2.4 Determine and explain the nature of casualty's injury/condition and relevant first aid procedures to provide comfort

2.5 Seek consent from casualty prior to applying first aid management

2.6 Provide *first aid management* in accordance with *established first aid principles* and Australian Resuscitation Council (ARC) Guidelines and/or State/Territory regulations, legislation and policies and industry requirements

2.7 Seek first aid assistance from others in a timely manner and as appropriate

2.8 Correctly operate first aid equipment as required for first aid management according to manufacturer/supplier's instructions and local policies and/or procedures

2.9 Use safe manual handling techniques as required

2.10 Monitor *casualty's condition* and respond in accordance with effective first aid principles and procedures

2.11 Finalise casualty management according to casualty's needs and first aid principles

ELEMENT**PERFORMANCE CRITERIA**

- | | |
|--|--|
| 3. Communicate details of the incident | 3.1 Request ambulance support and/or appropriate medical assistance according to relevant circumstances using relevant <i>communication media and equipment</i> |
| | 3.2 Accurately convey assessment of casualty's condition and management activities to ambulance services /other emergency services/relieving personnel |
| | 3.3 Prepare reports as appropriate in a timely manner, presenting all relevant facts according to established procedures |
| | 3.4 Accurately record details of casualty's physical condition, changes in conditions, management and response to management in line with established procedures |
| | 3.5 Maintain confidentiality of records and information in line with privacy principles and statutory and/or organisation policies |
| 4. Evaluate own performance | 4.1 Seek feedback from <i>appropriate clinical expert</i> |
| | 4.2 Recognise the possible psychological impacts on rescuers of involvement in critical incidents |
| | 4.3 Participate in debriefing/evaluation as appropriate to improve future response and address individual needs |

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- ARC Guidelines relating to provision of first aid as outlined
- Awareness of stress management techniques and available support
- First aid management of:
 - abdominal injuries
 - allergic reactions
 - altered and loss of consciousness
 - bleeding
 - burns - thermal, chemical, friction, electrical
 - cardiac arrest
 - casualty with no signs of life
 - chest pain
 - choking/airway obstruction
 - injuries: cold and crush injuries; eye and ear injuries; head, neck and spinal injuries; minor skin injuries; needle stick injuries; soft tissue injuries including sprains, strains, dislocations
 - envenomation - snake, spider, insect and marine bites
 - environmental impact such as hypothermia, hyperthermia, dehydration, heat stroke
 - fractures
 - medical conditions, including cardiac conditions, epilepsy, diabetes, asthma and other respiratory conditions
 - near drowning
 - poisoning and toxic substances (including chemical contamination)
 - respiratory distress
 - seizures
 - shock
 - stroke
 - substance misuse - common drugs and alcohol, including illicit drugs
- Social/legal issues:
 - duty of care
 - need to be culturally aware, sensitive and respectful
 - importance of debriefing
 - confidentiality
 - own skills and limitations
- Understanding of the use of an Automated External Defibrillator (AED), including when to use and when not to

continued ...

Essential knowledge (contd):

- Working knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- basic occupational health and safety requirements in the provision of first aid
- basic principles and concepts underlying the practice of first aid
- chain of survival
- first aiders' skills and limitations
- infection control principles and procedures, including use of standard precautions
- priorities of management in first aid when dealing with life threatening conditions
- procedures for dealing with major and minor injury and illness

Essential skills:

It is critical that the candidate demonstrate the ability to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes the ability to:

- Administer medication in line with state/territory regulations, legislation and policies
- Apply first aid principles
- Call an ambulance and/or medical assistance according to relevant circumstances and report casualty's condition
- Communicate effectively and assertively in an incident
- Conduct an initial casualty assessment
- Demonstrate correct procedures for performing CPR using a manikin, including standard precautions (i.e. as per unit *HLTCPR201A Perform CPR*)
- Demonstrate:
 - ability to call an ambulance
 - consideration of the welfare of the casualty
 - safe manual handling
 - site management to prevent further injury
- Evaluate own response and identify appropriate improvements where required
- Follow OH&S guidelines
- Infection control, including use of standard precautions
- Make prompt and appropriate decisions relating to managing an incident in the workplace
- Plan an appropriate first aid response in line with established first aid principles, policies and procedures, ARC Guidelines and/or State/Territory regulations, legislation and policies and industry requirements and respond appropriately to contingencies in line with own skills
- Prepare a written incident report or provide information to enable preparation of an incident report
- Provide assistance with self-medication as per subject's own medication regime and in line with State/Territory legislation, regulations and policies and any available

REQUIRED SKILLS AND KNOWLEDGE

medical/pharmaceutical instructions

- Use literacy and numeracy skills as required to read, interpret and apply guidelines and protocols

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package. The evidence guide supplements assessment requirements that apply to all units in this Training Package. Users of this evidence guide should first read the package's assessment guidelines.

Critical aspects of assessment:

- The individual being assessed must provide evidence of specified essential knowledge as well as skills
- Competence should be demonstrated working individually and, where appropriate, as part of a first aid team
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace or community setting
- Currency of first aid knowledge and skills is to be demonstrated in line with State/Territory regulations, legislation and policies, ARC and industry guidelines

Context and resources required for assessment:

- Skills in performing first aid procedures are to be assessed through demonstration, with questioning to confirm essential knowledge
- For assessment purposes, demonstration of skills in CPR procedures requires using a model of the human body (resuscitation manikin) in line with Australian Resuscitation Council Guidelines

EVIDENCE GUIDE

- Access and equity considerations:*
- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
 - All workers should develop their ability to work in a culturally diverse environment
 - In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
 - Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities

Related units:

This unit incorporates the content of units:

- HLTCPR201B Perform CPR
- HLTFA201B Provide basic emergency life support

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

RANGE STATEMENT

Contextualisation to address specific requirements may include:

- Focus on first aid management of specific types of injury
- First aid provision under specific constraints or circumstances (e.g. in confined spaces, in maritime work environment or in work environment involving identified risks/hazards)

Established first aid principles include:

- Preserve life
- Prevent illness, injury and condition(s) becoming worse
- Promote recovery
- Protect the unconscious casualty

Vital signs include:

- Consciousness
- Breathing
- Circulation

A hazard is:

- A source or situation with the potential for harm in terms of human injury or ill-health, damage to property, the environment, or a combination of these

Hazards may include:

- Physical hazards
- Biological hazards
- Chemical hazards
- Hazards associated with manual handling

Risks may include:

- Risks from equipment, machinery and substances
- Risks from first aid equipment
- Environmental risks
- Exposure to blood and other body substances
- Risk of further injury to the casualty
- Risks associated with the proximity of other workers and bystanders
- Risks from vehicles

RANGE STATEMENT

Casualty's condition is managed for:

- Abdominal injuries
- Airway obstruction
- Allergic reactions
- Altered and loss of consciousness
- Bleeding
- Burns - thermal, chemical, friction, electrical
- Chest pain/cardiac arrest
- Injuries: cold and crush injuries; eye and ear injuries; head, neck and spinal injuries; minor skin injuries; needle stick injuries; soft tissue injuries including sprains, strains, dislocations
- Near drowning
- Envenomation - snake, spider, insect and marine bites
- Environmental conditions such as hypothermia, hyperthermia, dehydration, heat stroke
- Fractures
- Medical conditions, including cardiac conditions, epilepsy, diabetes, asthma and other respiratory conditions
- No signs of life
- Poisoning and toxic substances (including chemical contamination)
- Respiratory distress/arrest
- Seizures
- Shock
- Stroke
- Substance misuse - common drugs and alcohol, including illicit drugs.

RANGE STATEMENT

First aid management must take into account applicable aspects of:

- The setting in which first aid is provided, including:
 - workplace policies and procedures
 - industry/site specific regulations, codes etc.
 - OHS requirements
 - state and territory workplace health and safety legislative requirements
 - location and nature of the incident
 - situational risks associated with, for example, electrical and biological hazards, weather, motor vehicle accidents
 - location of emergency services personnel.
- The use and availability of first aid equipment and resources
- Infection control
- Legal and social responsibilities of first aider

Resources and equipment are used appropriate to the risk to be met and may include:

- AED
- First aid kit
- Auto-injector
- Puffer/inhaler
- Resuscitation mask or barrier
- Spacer device

Communication media and equipment may include but are not limited to:

- Telephones, including landline, mobile and satellite phones
- HF/VHF radio
- Flags
- Flares
- Two way radio
- Email
- Electronic equipment
- Hand signals

Appropriate clinical expert may include:

- Supervisor/manager
- Ambulance officer/paramedic
- Other medical/health worker

RANGE STATEMENT

Documentation may include:

- Injury report forms
- Workplace documents as per organisation requirements

Documentation may include recording:

- Time
- Location
- Description of injury
- First aid management
- Fluid intake/output, including fluid loss via:
 - blood
 - vomit
 - faeces
 - urine
- Administration of medication including:
 - time
 - date
 - person administering
 - dose
- Vital signs

Unit Sector(s)

Not Applicable

LMTGN3007B Monitor and operate trade waste

Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit covers the skills and knowledge required to monitor, operate, measure and report on trade waste system performance and process quality control.

Application of the Unit

Application of the Unit

This unit applies to monitoring, operating, measuring and reporting on trade waste system performance and process quality control. Work may be conducted in restricted spaces or exposed conditions or controlled or open environments.

Inspection of areas may require:

- interaction and communication with other employees and other authorities
- identification of corrosion damage
- implementation of reporting procedures, which may also include procedures for implementation of organisational and statutory requirements

Work may be conducted in small to large scale enterprises and may involve individual and team activities. Work is performed within defined procedures under direct supervision.

The unit is applied according to OHS and workplace practices of the enterprise, which may include:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- standard operating procedures
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control and recycling

This unit requires the application of skills associated with initiative, enterprise and problem solving in order to monitor waste operations and maintain conditions of optimal performance. This unit also requires and ability to interpret and apply technical information.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
1 Monitor treatment plant performance	1.1 Routine plant inspections are assessed in accordance with organisational and plant requirements 1.2 <i>Process</i> samples are collected and <i>tests</i> conducted 1.3 Process <i>data</i> is collected and reported according to organisational and plant requirements
2 Control chemical use	2.1 Chemicals are used, handled, stored in accordance with organisational and statutory requirements 2.2 Chemical dosing is prepared in accordance with plant processes and organisational and statutory requirements 2.3 Information related to chemical supply and usage is maintained in accordance with statutory requirements
3 Operate and control processes	3.1 Processes are monitored to maintain parameters of operation 3.2 Process faults and operational conditions of plant are identified and reported in accordance with organisational and statutory requirements 3.3 Basic <i>system adjustments</i> are assessed to enhance system performance in accordance with organisational and statutory requirements
4 Compile process records	4.1 Reports are compiled from plant and system data to meet organisational and statutory requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit

Demonstrates knowledge of:

- industry process and equipment
- system hydraulics and layout, control systems
- chemical dosing processes
- hazardous material handling procedures
- safety and environmental aspects of relevant testing processes
- workplace procedures and reporting processes
- OHS practices, including hazard identification and control measures
- quality practices
- recording and reporting practices

Demonstrates skills to:

- solve operational problems
- prepare and apply chemical and biological dosing
- sample and test products
- maintain accurate records of test results/work records
- communicate effectively within the workplace
- interpret and apply established procedures
- document, assess and transfer information
- read, interpret and follow information on work specifications, standard operating procedures and work instructions and other reference material
- maintain accurate records
- sequence operations
- meet specifications
- clarify and check task-related information
- carry out work according to OHS practices

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects of evidence to be considered

Demonstrates skills and knowledge to:

- select and apply sampling and testing procedures
- collect data from recording systems
- operate and control chemical dosing
- use equipment such as listed in the range of variables
- apply relevant enterprise and legislative requirements

Consistency in performance

Consistently applies skills and knowledge when:

- organising work
- completing tasks
- identifying improvements
- using workplace practices
- using OHS practices
- recording and reporting accidents and incidents
- assessing operational readiness of equipment used and work processes
- recognising and adapting to cultural differences in the workplace, including modes of behaviour and interactions
- completing work systematically with attention to detail without damage to goods and equipment

Resource implications Access is required to real or appropriately simulated situations, including

work areas, materials and equipment, and to information on workplace

practices and OHS practices.

Context for assessment

Assessment may occur on the job or in an appropriately simulated environment.

Interdependent Assessment

This unit may be assessed independently or in combination with other relevant units.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Legislative/regulatory requirements	All work must comply with relevant Federal and State or Territory legislative or regulatory requirements.
Process may include:	<ul style="list-style-type: none"> • chemical precipitation, activated sludge, BOD reduction and solids handling
Data may include:	<ul style="list-style-type: none"> • plant performance data and chemical usage
Tests may include:	<ul style="list-style-type: none"> • settling tests, pH, dissolved oxygen
System adjustments may include:	<ul style="list-style-type: none"> • pH correction and dissolved oxygen levels
Equipment may include:	<ul style="list-style-type: none"> • electronic monitoring and metering systems • manual chart recording systems • laboratory testing and sampling equipment • computerised equipment
OHS practices	<p>OHS practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may include:</p> <ul style="list-style-type: none"> • manual handling techniques • standard operating procedures • personal protective equipment • safe materials handling • taking of rest breaks • ergonomic arrangement of workplaces • following marked walkways • safe storage of equipment • housekeeping • reporting accidents and incidents • other OHS practices relevant to the job and enterprise

Unit Sector(s)

Sector All

MEM09002B Interpret technical drawing

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers interpreting technical drawing applying to any of the full range of engineering disciplines.
------------------------	---

Application of the Unit

Application of the unit	<p>Technical drawings may utilise perspective, exploded views or hidden view techniques. Drawings are provided to Australian Standard 1100 and/or Australian Standard 1102 and their equivalents from the full range of engineering disciplines.</p> <p>Standard symbols to Australian Standard 1100 and/or Australian Standard 1102 or equivalent are recognised in field of employment. Technical drawings may include symbol glossaries.</p> <p>Where any drawing, sketch, chart, diagram is only used as the technique for communication, then this unit does not apply: see Unit MEM12023A (perform engineering measurements) or Unit MEM16006A (Organise and communicate information).</p> <p>Band: A</p> <p>Unit Weight: 4</p>
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select correct technical drawing	1.1. Drawing is checked and validated against job requirements or equipment. 1.2. Drawing version is checked and validated.
2. Interpret technical drawing	2.1. Components, assemblies or objects are recognised as required. 2.2. Dimensions are identified as appropriate to field of employment. 2.3. Instructions are identified and followed as required. 2.4. Material requirements are identified as required. 2.5. Symbols are recognised in the drawing as appropriate.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- checking the drawing against job requirements/related equipment in accordance with standard operating procedures
- confirming the drawing version as being current in accordance with standard operating procedures
- where appropriate, obtaining the current version of the drawing in accordance with standard operating procedures
- reading, interpreting information on the drawing, written job instructions, specifications, standard operating procedures, charts, lists and other applicable reference documents
- checking and clarifying task related information
- undertaking numerical operations, geometry and calculations/formulae within the scope of this unit

Required knowledge

Look for evidence that confirms knowledge of:

- application of AS1100.101 in accordance with standard operating procedures
- relationship between the views contained in the drawing

REQUIRED SKILLS AND KNOWLEDGE

- objects represented in the drawing
- units of measurement used in the preparation of the drawing
- dimensions of the key features of the objects depicted in the drawing
- understanding of the instructions contained in the drawing
- the actions to be undertaken in response to those instructions
- the materials from which the object(s) are made
- any symbols used in the drawing as described in range statement
- hazard and control measures associated with interpreting technical drawings, including housekeeping
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	A person who demonstrates competency in this unit must be able to interpret technical drawings as described.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	<p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with interpreting technical drawings or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Interpret technical drawing

AS1100.101 is an extensive work and the candidate is not required to have complete familiarity with all its contents, the application of AS1100 would usually be in line with standard operating procedures; interpretation may require guidance particularly in respect to any geometric tolerancing

Unit Sector(s)

Unit sector	
-------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	Drawing, drafting and design
------------------	------------------------------

MEM13003B Work safely with industrial chemicals and materials

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers using personal protective equipment (PPEs), identifying the particular hazards and emergency procedures, and observing safe working practices in that environment.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit may be applied in a workplace in which materials and chemicals which are subject to codes and regulations are stored and used, for example, chemicals, solvents, dangerous materials, acids, noxious waste products etc.</p> <p>Evidence of competency is to encompass the satisfactory application of current State/Territory OHS legislation, standards and codes of practice, and the hierarchy of hazard control measures with elimination, substitution, isolation and engineering control measures being selected before safe work practices and PPEs.</p> <p>This unit describes the competencies which are beyond those safety requirements normally applied in the workplace as described in Unit MEM13014A (Apply principles of occupational health and safety in the work environment) or specifically described in individual units such as welding.</p> <p>Band: A</p> <p>Unit Weight: 2</p>
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use personal protective equipment	1.1. Correct and appropriate safety clothing including personal protective equipment is selected and used correctly based on information in relevant material safety data sheet (MSDS).
2. Identify emergency procedures	2.1. Emergency procedures and plan relevant to the particular work environment are documented, understood and demonstrated as laid down in approved safety instructions.
3. Observe safe working practices	3.1. Hazardous areas and materials are identified and special handling procedures are identified and understood. 3.2. Permits to work (if necessary) are obtained. 3.3. All equipment and hazardous materials are used in accordance with relevant OHS legislation, manufacturers' instructions and standard operating procedures. 3.4. All site-specific safety policies, safety signs, symbols and labels are correctly identified and understood. 3.5. Material safety data sheets are understood and applied. 3.6. Safe manual handling procedures (including equipment) are used. 3.7. Decanted chemicals and storage is to State/Territory dangerous goods and OHS legislation and requirements. 3.8. Housekeeping duties are performed according to standard operating procedures to maintain a safe working environment.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: <ul style="list-style-type: none"> • undertaking risk assessment

REQUIRED SKILLS AND KNOWLEDGE

- communicating with others
- performing proper manual handling techniques
- interpreting safety signage, labelling and placarding

Required knowledge

Look for evidence that confirms knowledge of:

- dangerous goods classification and labelling/placarding
- testing, use and maintenance of PPE
- inherent hazardous properties of the chemicals to be used
- interpretation of the relevant MSDS
- basic fire fighting procedures
- site-specific emergency plan procedures
- chemical spill confinement procedures
- dangerous occurrence (near miss) reporting procedures
- hierarchy of control

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	<p>A person who demonstrates competency in this unit must be able to work safely and efficiently with various chemicals.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.</p>
Context of and specific resources for assessment	<p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with working safely with industrial chemicals and materials or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
Method of assessment	<p>Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.</p>
Guidance information for	

EVIDENCE GUIDE

assessment

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Personal protective equipment	<p>Personal protective may include appropriate:</p> <ul style="list-style-type: none"> • goggles/face shields • respirators • air supplied or self-contained helmets • safety boots, gloves and appropriate clothes/garments
Safe working practices	<ul style="list-style-type: none"> • Environment is inspected • Hazards (and chemical reactive hazards) are assessed and controlled using hierarchy of hazard control • Properly maintained PPE is available • Emergency management plan is documented/understood • Work to be undertaken in safe 'thermal' environments and all possible ignition sources are to be identified and controlled
Storage	<p>All storage containers (minor quantities and in consumer packages) are suitable for chemical exposure and are properly labelled and/or placarded. Chemical manifests are updated at completion of work activity</p>
State or Territory legislative requirements	<p>Appropriate OHS, dangerous goods acts and regulations, Australian standards, Australian Code for the Transport of Dangerous Goods by Road and Rail (ADGC), NOHSC codes of practice</p>

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	Occupational health and safety
-------------------------	--------------------------------

MEM15001B Perform basic statistical quality control

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers taking samples and applying a statistical process to monitor production.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to the collation and interpretation of statistical data in the context of statistical quality control, for example, tally, run or control charts. Uncontrolled variations are reported to appropriate authority.</p> <p>When the production and interpretation of charts and graphs not dependent on knowledge and understanding of the implications for quality are required, Unit MEM12024A (Perform computations) should be accessed.</p> <p>Band: A</p> <p>Unit Weight: 2</p>
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Take samples	1.1. Difference between population and sample is understood and various sampling schemes are applied in accordance with standard operating procedures.
2. Apply statistical process to monitor production	2.1. Concept of variation in terms of average and spread is understood. Data is used to produce relevant statistical information. 2.2. Data is interpreted accurately and information is presented to appropriate authority according to standard operating procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading, interpreting and following information on written job instructions, standard operating procedures, charts, lists, drawings and other applicable reference documents
- applying statistical process control procedures in accordance with instructions to a given production process
- obtaining data from samples including average, range and random or assignable causes
- producing tally, run or control charts from sampling data
- reporting information from sampling data
- checking and clarifying task-related information
- completing proformas and standard workplace forms

Required knowledge

Look for evidence that confirms knowledge of:

- the difference between population and sample, and the concept of variation in terms of average and range, random and assignable causes
- numerical operations and statistical calculations/formulae within the scope of this unit

REQUIRED SKILLS AND KNOWLEDGE

- statistical process control procedures, which may include Six Sigma etc. and the sampling procedures to be followed
- the types of charts that can be produced to assist monitoring of products including run charts, tally charts, histograms, control charts
- procedures for reporting sample data information
- use and application of personal protective equipment
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	A person who demonstrates competency in this unit must be able to perform basic statistical quality control.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	<p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with performing basic statistical quality control or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Sampling schemes	Agreed customer plans, Acceptable Quality Level (AQL) and Average Outgoing Quality Level (AOQL) plans, Shainin, Six Sigma etc.
Relevant statistical information	Average, range and process control data and the plotting of charts such as line graphs, run charts, tally charts, histograms, control charts, random and assignable causes etc.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Competency field

Competency field	Quality
------------------	---------

MEM18001C Use hand tools

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers using a range of hand tools for a variety of general engineering applications.
------------------------	---

Application of the Unit

Application of the unit	<p>Applications may include hand tools used for adjusting, dismantling, assembling and finishing of items or components, and the finishing, cutting, scraping of metallic and non-metallic material to size and shape. This includes simple tapping and threading and routine maintenance of hand tools.</p> <p>This unit should not be selected if the hand tool is dedicated to a single operation or machine and if only a machine specific/customised tool is used.</p> <p>When using hand held power tools or power tools used for hand held operations, refer to Unit MEM18002B (Use power tools/hand held operations).</p> <p>Band: A</p> <p>Unit Weight: 2</p>
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use hand tools	1.1. Hand tools are selected appropriate to the task requirements. 1.2. Hand tools are used to produce desired outcomes to job specifications which may include finish, tension, size or shape. 1.3. All safety requirements are adhered to before, during and after use. 1.4. Unsafe or faulty tools are identified and marked for repair according to designated procedures before, during and after use. 1.5. Routine maintenance of tools, including hand sharpening is undertaken according to standard operational procedures, principles and techniques. 1.6. Hand tools are stored safely in appropriate location according to standard operational procedures and manufacturers' recommendations.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
Look for evidence that confirms skills in: <ul style="list-style-type: none"> • reading and following information on standard operating procedures • following verbal instructions • selecting hand tools appropriate to the task • using hand tools safely • identifying hand tool defects and marking for repair • maintaining/sharpening hand tools using appropriate techniques • storing hand tools in accordance with manufacturers'/standard operating procedures
Required knowledge
Look for evidence that confirms knowledge of: <ul style="list-style-type: none"> • applications of different hand tools in a general engineering context • common faults and/or defects in hand tools

REQUIRED SKILLS AND KNOWLEDGE

- procedures for marking unsafe or faulty tools for repair
- routine maintenance requirements for a range of hand tools
- storage location and procedures for a range of hand tools
- hazards and control measures associated with using hand tools
- use and application of personal protective equipment
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	<p>A person who demonstrates competency in this unit must be able to use hand tools for a range of general engineering applications.</p>
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.</p>
Context of and specific resources for assessment	<p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with using hand tools or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
Method of assessment	<p>Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.</p>
Guidance information for assessment	

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Hand tools	Hacksaws, hammers, punches, screwdrivers, sockets, wrenches, scrapers, chisels, gouges, wood planes and files of all cross-sectional shapes and types
Job specifications	Finish, tension, size or shape etc.
Routine maintenance	Cleaning, lubricating, tightening, simple tool repairs, hand sharpening and adjustments using engineering principles, tools, equipment and procedures

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	Maintenance and diagnostics
------------------	-----------------------------

MEM18002B Use power tools/hand held operations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers using a range of hand held power tools and fixed power tools for hand held operations for a variety of general engineering applications.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to loosening and fastening items or components and shaping, finishing, cutting, grinding metallic and non-metallic materials and/or tool bits to size and shape.</p> <p>This unit should not be selected if the power tools used are dedicated to an operation or machine, e.g. nut-runner, air drill, power driver, etc.</p> <p>For using hand tools, see Unit MEM18001C (Use hand tools).</p> <p>Band: A</p> <p>Unit Weight: 2</p>
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

Prerequisite units	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Use power tools	1.1. Power tools are selected appropriate to the task requirements. 1.2. Power tools are used for a determined sequence of operations - which may include clamping, alignment and adjustment to produce desired outcomes - to job specifications which may include finish, size or shape. 1.3. All safety requirements are adhered to before, during and after use. 1.4. Unsafe or faulty tools are identified and marked for repair before, during and after use according to designated procedures. 1.5. Operational maintenance of tools, including hand sharpening, is undertaken according to standard workplace procedures, principles and techniques. 1.6. Power tools are stored safely in appropriate location according to standard workshop procedures and manufacturers' recommendations.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- reading and following information on standard operating procedures
- following verbal instructions
- selecting power tools appropriate to the task
- using power tools safely
- using clamping/securing devices
- identifying power tool defects
- maintaining power tools using appropriate techniques
- sharpening tools/tool bits within the scope of this unit
- storing power tools according to manufacturers'/ standard operating procedures.

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Look for evidence that confirms knowledge of:

- application of different power tools
- clamping/securing methods
- adjustments/alignments to a range of power tools
- common faults and/or defects in power tools
- procedures for marking unsafe or faulty power tools for repair
- routine maintenance requirements of a range of power tools
- tool sharpening techniques for a range of power tools
- storage location and procedures of a range of power tools
- hazards/control measures associated with power tools
- use and application of personal protective equipment
- safe work practices and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	A person who demonstrates competency in this unit must be able to use power tools/hand held operations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	<p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with using power tools/hand held operations or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning should not require language, literacy and numeracy skills beyond those required in this unit. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Power tools	Electric or pneumatic/hydraulic drills, grinders, jigsaws, nibblers, cutting saws, sanders, planers, routers, pedestal drills and pedestal grinders
Clamping	Multigrips, vices, jigs and fixtures, clamps etc.
Job specifications	Finish, size or shape etc.
Operational maintenance	Hand sharpening, cleaning, lubricating, tightening Simple tool repairs and adjustments using engineering principles, tools, equipment and procedures to statutory and regulatory requirements

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Competency field

Competency field	Maintenance and diagnostics
------------------	-----------------------------

MEM30011A Set up basic pneumatic circuits

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers setting up and selecting components associated with single linear pneumatic systems.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit applies to all engineering or manufacturing environments.</p> <p>The unit refers to simple pneumatic circuits containing single linear actuators.</p> <p>Work is carried out under supervision.</p> <p>Band: 0</p> <p>Unit Weight: 0</p>
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Determine system requirements	1.1. Instructions regarding system requirements are obtained, understood and clarified as necessary. 1.2. Circuit drawings using standard symbols are interpreted correctly.
2. Select components for simple pneumatic circuits	2.1. Suitable air system components are selected for given fluid power systems from specification charts and in accordance with safety procedures involving compressed air. 2.2. Linear actuators are selected to suit system requirements. 2.3. Control valves are selected to suit system requirements.
3. Verify component selection	3.1. Circuits are set up and operated on laboratory benches. 3.2. Operation is analysed and outcomes are verified against system requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- drawing pneumatic circuits
- testing operation of pneumatic circuits
- assessing performance
- calculating circuit requirements
- documenting circuit specifications and test results
- applying fluid power principles

Required knowledge

Look for evidence that confirms knowledge of:

- fluid power:
 - definition of the term fluid power

REQUIRED SKILLS AND KNOWLEDGE

- differences between pneumatic and hydraulic systems
- advantages and disadvantages of fluid power when compared to mechanical and electric power systems
- safety procedures when working with compressed air and associated equipment
- awareness of different components including:
 - air compressors
 - receivers, interlocks
 - pipes - rigid and flexible
 - valves - types and functions
 - filters - types and functions
 - gauges and instruments - pressure and temperature gauges, liquid level gauges, thermometers, thermocouples, manometers, piezometers
 - pipe fittings - elbows/bends
 - flow measurement instruments - venturi and orifice meters
 - air motors
 - linear actuators:
 - types, selection and functions
 - methods of supporting linear actuators
 - introduction to calculations related to linear actuators
 - recognition and drawing of standard symbols
 - observation and analysis of performance of linear actuators in laboratory circuits
 - control valves (hydraulic and pneumatic):
 - directional controls and functions
 - check valves and functions
 - pressure controls and functions
 - flow controls and functions
 - recognition and drawing of standard symbols for control valves
 - drawing and analysis of typical circuits containing control valves
 - observation and analysis of performance of valves in basic circuits
- circuit design and analysis (single linear actuator):
 - drawing and analysis of circuit diagrams containing basic components
 - setting up and operating circuits on pneumatic and hydraulic benches in a fluid power laboratory

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	A person who demonstrates competency in this unit must be able to set up basic pneumatic circuits.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.
Context of and specific resources for assessment	<p>This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.</p> <p>This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with setting up basic pneumatic circuits or other units requiring the exercise of the skills and knowledge covered by this unit.</p>
Method of assessment	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised** wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Safety procedures

Following required precautions when using compressed air and when shutting down air compressors and receivers

Unit Sector(s)

Unit sector	
-------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	Engineering technician
------------------	------------------------

MSACMT270A Use sustainable energy practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills needed to use and make improvements in sustainable energy practices in production, maintenance and logistics.
------------------------	---

Application of the Unit

Application of the unit	<p>In a typical scenario, a team member will be aware of energy use. Some of this energy use is necessary but typically a large part of energy use is <i>unnecessary waste</i> and so should be eliminated. The team member will observe energy use and ensure it is according to the organisation's plans and will also engage in continuous improvement for energy use.</p> <p>This unit requires the application of skills associated with interpreting workplace information on energy use and using procedures and technology to minimise energy use and waste.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
---------------------------	--

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify energy use	1.1. Identify energy consuming processes in relation to own work 1.2. Recognise the type/source of <i>energy</i> consumed
2. Follow energy conservation plans	2.1. Check energy use in accordance with conservation plans 2.2. Identify most efficient or appropriate equipment or procedures to comply with conservation plans 2.3. Identify any uses which do not comply with conservation plans 2.4. Take action in accordance with procedures to bring energy use back in line with conservation plans
3. Improve energy use	3.1. Note any waste of energy use 3.2. Recommend improvements to energy use

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analysis
- basic mathematics
- communication
- problem solving

Required knowledge

- types and sources of energy relevant to the process
- basic principles of energy efficiency
- process needs for energy

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.</p>	
Overview of assessment requirements	The team member will be able to identify the energy use of any/all parts of the process and recommend better ways of using it.
What are the specific resource requirements for this unit?	Access to an organisation seeking to improve its energy usage.
What critical aspects of evidence are required to demonstrate competency in this unit?	Evidence of conformance to energy usage plans and suggestions for improvement should be available.
In what context should assessment occur?	Assessment needs to be conducted in an organisation where energy is a significant cost component or by use of a project, simulation or case study.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	<p>This unit is related to:</p> <ul style="list-style-type: none"> • <i>MSACMT271A Use sustainable environmental practices</i> - which covers general environmental practices, and • <i>MSACMT670A Develop and manage sustainable energy practices</i> - which covers higher level aspects.
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the</p>

EVIDENCE GUIDE	
	assessment.
What evidence is required for demonstration of consistent performance?	Evidence should be available from the daily routine of the job to show that there is consistent performance.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Waste</p>	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product. Within manufacturing, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items. <p>Waste for this unit may include activities which do not yield any benefit to the organisation or any benefit to the organisations customers.</p>
<p>Energy</p>	<p>Energy is used to mean all sources of energy used by the process be it electricity, gas or mobile transport fuel. The uses of the energy will also be potentially wide and include heating and cooling, lighting, moving materials (including pumps and conveyors), modifying materials (including cutting, forming, weaving, knitting, reacting, moulding, extruding, mixing), generating pressure/vacuum or providing motive power for equipment and transport.</p>

Unit Sector(s)

<p>Unit Sector</p>	<p>CM Tools</p>
---------------------------	-----------------

Co-requisite units

Co-requisite units	
--------------------	--

Functional area

Functional Area	
-----------------	--

MSACMT671A Develop and manage sustainable environmental practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the knowledge and skills needed to identify opportunities for and make improvements in sustainable environmental practices in production, maintenance and logistics. Areas covered include efficient use of raw materials, management of waste, electricity conservation, heat conservation and management, water management, environment protection and environment obligations of enterprises.
------------------------	---

Application of the Unit

<p>Application of the unit</p>	<p>This is the highest level sustainable environmental practices unit in the CM. In a typical scenario, there is a need to reduce <i>waste</i> in the <i>value chain</i>. Part of this is the cost of <i>environmental resources</i> to the process. Some of this is <i>necessary waste</i> but a large part of environmental resource use may be <i>unnecessary waste</i> and so should be totally eliminated. In order to make these savings, there is a need to analyse environmental resource use and cost in all its forms and then develop and implement plans for the more efficient use of energy.</p> <p>This unit primarily requires the application of communication and problem solving skills associated with collecting and analysing information. An ability to analyse resource use of technology or processes will be applied. Initiative and enterprise, and planning and organising are also required to develop plans for efficient resource use. This unit also requires aspects of self management and learning to ensure feedback and new learning is integrated into the development of processes.</p>
---------------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>	
----------------------------------	--

Employability Skills Information

<p>Employability skills</p>	<p>This unit contains employability skills.</p>
------------------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance Criteria describe the performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Analyse resource use	1.1. Identify all resource consuming processes 1.2. Determine quantity and nature of resource consumed 1.3. Analyse resource flow through different parts of the process
2. Develop resource conservation plans	2.1. Determine the efficiency of use/conversion of resources 2.2. Determine causes of low efficiency of use 2.3. Develop plans for increasing the efficiency of resource use 2.4. Check resource use plans comply with regulations/licensing requirements 2.5. Determine benefit/cost of plans
3. Investigate alternative sources of resource	3.1. Determine the function of the resource used 3.2. Develop a specification for function 3.3. Identify a range of sources for meeting that function 3.4. Determine benefit/cost for alternative resource sources
4. Develop plans for more efficient resource use	4.1. Compare benefit/costs for different alternatives developed 4.2. Rank proposals based on benefit/cost compare to limited resources 4.3. Check proposals meet regulatory requirements 4.4. Recommend proposals for improving resource efficiency
5. Implement selected plans	5.1. Liaise with relevant people to implement resource efficiency plans 5.2. Follow through to ensure implementation occurs 5.3. Monitor implementation and make adjustments as required 5.4. Check new resource usage to ensure improvements have occurred

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- analysis
- mathematics
- communication
- problem solving
- data gathering.
- planning and organising

Required knowledge

- the '3Rs' - reduce, re-use, recycle
- regulatory/licensing requirements
- types and sources of resources
- methods of analysing resource efficiency for different resources
- alternative resources/alternative ways of achieving the same function
- principles of resource efficiency
- relevant regulatory/legislative requirements
- process needs for resources

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.	
Overview of assessment requirements	The person will be able to analyse the resource use of any/all part/s of the process and determine if there are more efficient/cheaper ways of achieving the same result.
What are the specific resource requirements for this unit?	Access to an organisation seeking to improve its resource usage.
In what context should assessment occur?	Assessment needs to be conducted in an organisation where resource use is a significant cost component.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	This unit is related to: <ul style="list-style-type: none"> • <i>MSACMT271A Use sustainable environmental practices</i> - which covers the individual application level, and • <i>MSACMT670A Develop and manage sustainable energy practices</i> - which covers energy specific aspects.
What method of assessment should apply?	<p>Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment.</p> <p>Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit.</p> <p>The assessee will have access to all techniques, procedures, information, resources and aids which would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.</p>
What evidence is required for demonstration of consistent performance?	If evidence is from a major project to improve resource efficiency, then it may provide sufficient evidence. If evidence is from a number of minor improvements to resource use then a range of such improvements will be needed to provide

EVIDENCE GUIDE	
	sufficient evidence.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Resources	Resources includes all raw materials and components as well as cooling water, process water, cleaning water, fuels, lubricants and other materials used in/required by the process.
Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product.</p> <p>Within manufacturing, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items. <p>Waste for this unit may include activities which do not yield any benefit to the organisation or any benefit to the organisations customers.</p>
Necessary waste	Necessary waste is any activity or cost which does not contribute directly to customer benefit/feature in the product, and which cannot be avoided (e.g. regulatory compliance and fixed costs). Necessary waste cannot be eliminated but should be managed.
Unnecessary waste	Unnecessary waste is any activity or cost which does not contribute directly to customer benefit/features in the product and can be avoided. Unnecessary waste should be eliminated as quickly as practical.

Unit Sector(s)

Unit Sector	CM Tools
-------------	----------

Co-requisite units

Co-requisite units	
--------------------	--

Functional area

Functional Area	
-----------------	--

MSAENV272B Participate in environmentally sustainable work practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This competency covers the outcomes required to effectively measure current resource use and carry out improvements including those reducing negative environmental impacts of work practices.</p> <p>This unit is based on the sustainability guideline standard GCSSUS01A Participate in environmentally sustainable work practices.</p>
------------------------	---

Application of the Unit

<p>Application of the unit</p>	<p>This competency applies to operators/team members who are required to follow procedures so as to work in an environmentally sustainable manner. This ensures regulatory compliance and also aims at minimising environmental risks and maximises the environmental performance of the process and the organisation.</p> <p>It includes:</p> <ul style="list-style-type: none"> • Resources used • Potential environmental hazards • Improving environmental performance (within scope of competency and authority). <p>This competency applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office, warehouse etc. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors.</p>
---------------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

<p>Prerequisite units</p>	<p>This unit has no prerequisites</p>	

Employability Skills Information

<p>Employability skills</p>	<p>This unit contains employability skills.</p>
------------------------------------	---

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify current resource use and environmental issues.	1.1. Identify workplace <i>environmental and resource efficiency issues</i> . 1.2. Identify resources used in own work role. 1.3. <i>Measure</i> and record current usage of resources using <i>appropriate techniques</i> . 1.4. Identify and report workplace environmental hazards to appropriate personnel.
2. Comply with environmental regulations.	2.1. Follow <i>procedures</i> to ensure <i>compliance</i> . 2.2. Report environmental <i>incidents</i> to appropriate personnel.
3. Seek opportunities to improve environmental practices and resource efficiency.	3.1. Follow <i>enterprise plans</i> to improve environmental practices and resource efficiency. 3.2. Make <i>suggestions</i> for improvements to workplace practices in own work area.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include the ability to:

- report as required by procedures
- follow procedures and instructions and respond to change
- ask questions and seek clarifications relating to work requirements

Reading and writing is required in order to interpret required procedures and complete required workplace forms/reports.

Numeracy is required to interpret numeric workplace information, readings and measurements, handle data as required and complete numeric components of workplace forms/reports.

Required knowledge

Competency includes sufficient knowledge to:

- have a basic understanding of sustainability
- know the environmental hazards/risks, resource use and inefficiencies associated with own workplace (at an appropriate level)
- know the relevant environmental and resource efficiency systems and procedures for own work area
- know the impact of laws and regulations to a level relevant to the work context

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

A person who demonstrates competence in this unit must be able to provide evidence of the ability to follow workplace procedures according to instructions given and to participate in the improvement of environmental and resource efficient work practices at own level of responsibility. Evidence must be strictly relevant to the particular workplace role.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- identify and measure resources used in their job
- identify situations likely to lead to an environmental incident
- follow procedures related to environmental performance.

Consistent performance should be demonstrated. For example, look to see that:

- work is routinely to procedures
- the minimum of resources is used consistent with the job requirements, good practice and the procedures.

Context of and specific resources for assessment

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Depending on the selected methods of assessment access may be required to:

- workplace procedures and plans
- documentation in relation to production, waste, overheads, hazard control/management
- reports from supervisors/managers
- case study/scenarios

Method of assessment

A holistic approach should be taken to the assessment.

Competence in this unit may be assessed:

- by demonstration in the workplace

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • using targeted questioning for appropriate portions • by use of a suitable simulation and/or a range of case studies/scenarios • by a combination of these techniques. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment.</p>
Guidance information for assessment	Assessors need to be aware of any cultural issues that may affect responses to questions. Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Procedures

All operations are performed in accordance with procedures including all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Environmental and resource efficiency issues

Environmental and resource efficiency issues include minimisation of environmental risks and maximisation of opportunities to improve business environmental performance and to promote more efficient production and consumption of natural resources, for example by:

- minimisation of waste, through implementation of the waste management hierarchy
- efficient and effective use of energy and other resources
- seeking alternative sources of energy
- efficient use of materials and appropriate disposal of waste
- use of controls to minimise the risk of environmental damage from hazardous substances
- efficient water use
- reducing emissions
- life cycle analysis applied to issues such as energy supply, materials, transport, production

Measure

Measure should be interpreted in a manner consistent with the scope of the job and may include things like:

- counting the number of items entering/leaving a work area
- reading indicators in the work area
- obtaining relevant information from support

RANGE STATEMENT	
	<p>personnel</p> <ul style="list-style-type: none"> • other simple means
Appropriate techniques	<p>Appropriate techniques include:</p> <ul style="list-style-type: none"> • material fed to/consumed by plant/equipment • plant meters and gauges • job cards including kanbans • examination of invoices from suppliers • measurements made under different conditions • examination of relevant information and data.
Compliance	<p>Compliance includes meeting relevant federal, state and local government laws, by-laws, regulations and mandated codes of practice. It also includes any codes and standards that the enterprise applies voluntarily.</p>
Incidents	<p>Incidents include:</p> <ul style="list-style-type: none"> • breaches or potential breaches of regulations • occurrences outside of standard procedure which may lead to lower environmental performance.
Enterprise plans	<p>Enterprise plans include:</p> <ul style="list-style-type: none"> • documented policies and procedures • work plans to minimise waste, increase efficiency of water/energy use, minimise environmental hazards
Suggestions	<p>Suggestions include ideas that help to:</p> <ul style="list-style-type: none"> • prevent and minimise environmental risks and maximise opportunities • reduce emissions of greenhouse gases • reduce use of non-renewable resources • improve energy efficiency • increase use of renewable, recyclable, reusable and recoverable resources • reduce waste • increasing the reusability/recyclability of wastes/products • reduce water usage and/or water wastage.

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Competitive manufacturing tools
-------------------------	---------------------------------

Co-requisite units

Co-requisite units		

MSAENV472B Implement and monitor environmentally sustainable work practices

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This competency covers the outcomes required to effectively analyse the workplace in relation to environmentally sustainable work practices and to implement improvements and monitor their effectiveness.</p> <p>This unit is based on the sustainability guideline standard GCSSUS02A Implement and monitor environmentally sustainable work practices.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This competency applies to those who have responsibility for a specific area of work or who lead a work group or team. It addresses the knowledge, processes and techniques necessary to implement and monitor environmentally sustainable work practices, including the development of processes and tools.</p> <p>It includes:</p> <ul style="list-style-type: none"> • Identifying areas for improvement • Developing plans to make improvements • Implementing and monitoring improvements in environmental performance. <p>This competency applies to all sectors of the manufacturing industry and members of its value chain. It may also be applied to all sections of an organisation, including office, warehouse etc. This unit will need to be appropriately contextualised as it is applied across an organisation and across different industry sectors.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	This unit has no prerequisites	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Investigate current practices in relation to resource usage.	1.1 Identify environmental regulations applying to the enterprise. 1.2 Assess procedures for assessing <i>compliance</i> with environmental regulations. 1.3 Collect information on environmental and resource efficiency systems and procedures, and provide to the work group where appropriate. 1.4 Measure and record current resource usage by members of the work group. 1.5 Analyse and record current purchasing strategies. 1.6 Analyse current work processes to access information and data and assist in identifying areas for improvement.
2. Set targets for improvements.	2.1 Seek input from stakeholders, key personnel and specialists. 2.2 Access external sources of information and data as required. 2.3 Evaluate alternative solutions to workplace environmental issues. 2.4 Set efficiency targets.
3. Implement performance improvement strategies.	3.1 Source <i>techniques/tools</i> to assist in achieving targets. 3.2 Apply continuous improvement strategies to own work area of responsibility and communicate ideas and possible solutions to the work group and management. 3.3 Integrate environmental and resource efficiency improvement plans for own work group with other operational activities and implement them. 3.4 Seek suggestions and ideas about environmental and resource efficiency management from stakeholders and act upon them where appropriate. 3.5 Implement costing strategies to fully value environmental assets.
4. Monitor performance.	4.1 Document outcomes and communicate reports on targets to key personnel and stakeholders. 4.2 Evaluate strategies. 4.3 Set new targets and investigate and apply new tools and strategies. 4.4 Promote successful strategies and reward participants where possible.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using relevant environmental and resource efficiency systems, tools and procedures
- applying quality assurance systems relevant to own work area
- applying relevant supply chain procedures
- measurement and calculation techniques
- communication/consultation skills to ensure information is supplied to the work group

Reading and writing is required to comprehend documentation and interpret environmental and energy efficiency requirements and to document and maintain records

Numeracy is required to interpret numeric workplace information, readings and measurements, handle data as required and complete numeric components of workplace forms/reports.

Required knowledge

Required knowledge includes:

- how to access and use relevant environmental and resource efficiency systems, tools and procedures
- understanding of best practice approaches relevant to own area of responsibility
- strategies to maximise opportunities and minimise impacts relevant to own work area
- relevant environmental and resource efficiency issues specific to industry practices
- methods for measuring and calculating resource usage

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competence in this unit must be able to provide evidence of the ability to implement and monitor integrated environmental and resource efficiency management policies and procedures within an organisation.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:</p> <ul style="list-style-type: none"> • monitor and investigate current resource usage • develop plans to improve sustainability • implement environmental improvements. <p>Consistent performance should be demonstrated. For example, look to see that:</p> <ul style="list-style-type: none"> • environmental performance is routinely monitored and investigated • areas for improvements are followed through and the implemented changes are in turn monitored and investigated.
<p>Context of and specific resources for assessment</p>	<p>This section should be read in conjunction with the range of variables for this unit of competency. Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.</p> <p>Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation.</p> <p>A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.</p> <p>Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified</p>

EVIDENCE GUIDE	
	for people with disabilities.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed:</p> <ul style="list-style-type: none"> • by demonstration in the workplace • using targeted questioning for appropriate portions • through use of specific project(s) • by use of a suitable simulation and/or a range of case studies/scenarios • by a combination of these techniques. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment.</p>
Guidance information for assessment	<p>Assessors need to be aware of any cultural issues that may affect responses to questions.</p> <p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Environmental and resource efficiency issues

Environmental and resource efficiency issues include:

- addressing environmental and resource sustainability initiatives such as Environmental Management Systems, action plans, surveys and audits
- reference to standards, guidelines and approaches such as:
 - ISO 14001 Environmental Management Systems
 - Life Cycle Analyses
 - Cradle to cradle
 - Global Reporting Initiative
 - Ecological footprinting
 - Triple Bottom Line reporting
 - Product Stewardship
- determining enterprise's most appropriate waste treatment including waste to landfill, recycling, re-use and wastewater treatment
- applying the waste management hierarchy in the workplace
- initiating and/or maintaining appropriate enterprise procedures for operational energy consumption, including stationary energy and

RANGE STATEMENT	
	<p>non stationary (transport)</p> <ul style="list-style-type: none"> • efficient use of water • minimising greenhouse gas emissions • use of controls to minimise the risk of environmental damage from hazardous substances
Measure	<p>Measuring techniques include:</p> <ul style="list-style-type: none"> • material fed to/consumed by plant/equipment • plant meters and gauges • job cards including kanbans • examination of invoices from suppliers • measurements made under different conditions • examination of relevant information and data • others as appropriate to the specific industry contexts.
Techniques and tools	<p>Techniques and tools may include:</p> <ul style="list-style-type: none"> • visual workplace concepts • measurement, display and/or recording devices • changed work practices/procedures • competence development and awareness training • process and equipment items
Compliance	<p>Compliance includes meeting relevant federal, state and local government laws, by-laws, regulations and codes of practice.</p>
Incidents	<p>Incidents include:</p> <ul style="list-style-type: none"> • breaches or potential breaches of regulations • occurrences outside of standard procedure which may lead to lower environmental performance
Purchasing strategies	<p>Purchasing strategies include:</p> <ul style="list-style-type: none"> • influencing suppliers to take up environmental sustainability • selecting materials/components with a lower environmental profile.
Stakeholders, key personnel and specialists	<p>Stakeholders, key personnel and specialists include individuals and groups both inside and outside the organisation that have some direct interest in the</p>

RANGE STATEMENT	
	<p>enterprise's conduct, actions, products and services, including:</p> <ul style="list-style-type: none"> • employees at all levels of the organisation • customers • suppliers • other organisations • key personnel within the organisation, and specialists outside it who may have particular technical expertise
Suggestions	<p>Suggestions includes ideas that help to:</p> <ul style="list-style-type: none"> • prevent and minimise environmental risks and maximise opportunities • reduce emissions of greenhouse gases • reduce use of non-renewable resources • make more efficient use of energy, water and other resources • maximise opportunities to re use and recycle materials • identify strategies to offset or mitigate environmental impacts. e.g. purchasing of carbon credits • express purchasing power through the selection of suppliers with improved environmental performance. e.g. purchasing renewable energy and materials with lower embedded carbon • eliminate the use of hazardous and toxic materials increasing the reusability/recyclability of wastes/products.

Unit Sector(s)

Unit sector	
--------------------	--

Competency field

Competency field	Competitive manufacturing tools
-------------------------	---------------------------------

Co-requisite units

Co-requisite units		

MSAPMOHS216A Operate breathing apparatus

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit covers competence associated with the operation and maintenance of breathing apparatus equipment in an irrespirable atmosphere.

Application of the Unit

Application of this unit

This competency applies to operators who are required to wear breathing apparatus for part of their job - because they are working in a confined space, with hazardous gases/vapours, in an anoxic atmosphere or for other applications requiring the wearing of breathing apparatus. They may also be required to wear it in emergency situations, however this is not the prime focus of this unit, and so makes this unit different from *PUAFIR207A Operate breathing apparatus open circuit*, as it has no prerequisite and is much broader in its application.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Conduct pre-donning checks and tests on breathing apparatus.	1.1 Inspect breathing apparatus for immediate use in accordance with procedures. 1.2 Report/record faulty or damaged equipment in accordance with procedures.
2. Operate breathing apparatus.	2.1 Identify, monitor and control hazards in accordance with the procedures. 2.2 Establish and maintain communication with appropriate personnel throughout the activity. 2.3 Demonstrate effective application of breathing apparatus, undertaking activities as a member of a team, in accordance with procedures. 2.4 Implement entrapment procedures in accordance with procedures. 2.5 Maintain personal safety at all times.
3. Conclude operations.	3.1 Close down breathing apparatus set in accordance with procedures. 3.2 Remove breathing apparatus set in accordance with procedures. 3.3 Undertake after-use cleaning and maintenance of breathing apparatus in accordance with procedures. 3.4 Make equipment ready for operational use in accordance with procedures.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Underpinning knowledge:

- respiratory system, effects of irrespirable atmospheres on the body, protective equipment
- characteristics, component parts, operation of compressed air breathing apparatus
- operational testing, standard operating procedures and safe work practices when wearing breathing apparatus
- operating breathing apparatus
- use of procedures, personal lines and tallies
- pre-use tests and checks, including serviceability of components, integrity of components, cylinder pressure, integrity of air flow system, ancillary equipment.
- breathing apparatus control, including principles of BA Control, organisation procedures, Stage 1 (one entry point), Stage 2 (multiple entry points), entry/exit control point, entry/exit control officer, timing device
- entrapment procedures, including cease all strenuous activity, activate the distress signal unit, remain calm, relocate to safest available place, call for assistance
- communications, including distress signal unit, portable radio, communications sets, signal lines, hand signals.

Underpinning skills:

- Inspecting, donning, operating in, removal, cleaning, maintaining and returning to operational status of breathing apparatus.

Language, literacy and numeracy requirements

This unit requires the ability to interpret any permits or other documentation associated with the wearing of breathing apparatus for the job.

Writing is required to the level of completing required workplace reports.

Numeracy is required to enable the determination of the available working time from a breathing apparatus set and similar activities.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment. Assessors must be satisfied that the person can consistently perform the competency as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Assessment will occur using industrial breathing apparatus and will be undertaken in a work-like environment.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

In accordance with AS/NZ 17151716, it is essential that competence is demonstrated in the ability to:

- appropriately conduct pre-donning tests
- correctly don breathing apparatus
- operate breathing apparatus
- move in conditions of reduced visibility
- use breathing apparatus in emergency procedures
- follow organisation procedures
- correctly remove breathing apparatus
- return breathing apparatus to operational status.

Assessment method and context

Competence in this unit may be assessed:

- by using an appropriate, industrial breathing apparatus and scenarios
- in a situation allowing the generation of evidence of the ability to respond to problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to breathing apparatus and associated equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required. Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to anyone required to wear breathing apparatus as part of their job.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of breathing apparatus, including:

- open circuit
- airline equipment.

Hazards

Typical hazards include:

- fire
- failure to maintain a face seal
- exhaustion of air supply
- malfunction of equipment
- disorientation in smoke/darkness or confinement
- structural hazards and/or hazardous materials
- entrapment.

Problems

'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems'.

Variables

Key variables to be monitored for an irrespirable atmospheres include

- heated atmospheres
- asphyxiating atmosphere (oxygen deficient)
- (non-skin absorption) toxic or poisonous atmosphere
- smoke or suspended particles/fibres in atmosphere.
-

Unit Sector(s)

Not applicable.

MSAPMOHS217A Gas test atmospheres

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit is about testing the working atmosphere to determine if it is safe for the proposed work. Testing involves the use of electronic test apparatus.

Application of the Unit

Application of this unit

In a typical scenario an individual may be required to carry out gas testing of an atmosphere prior to entering a specific area or workspace. The competency requires the person to interpret readings and take actions based on the interpretation.

This unit is modelled on the Public Safety unit PUAFIR307A Monitor hazardous atmospheres, but does not have the prerequisites, which are not required in the industrial context. The unit is more focused on the needs of that sector and has some wording changes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Prepare for gas testing.	1.1 Determine type of gas/atmosphere to be tested. 1.2 Select and calibrate equipment in accordance with procedures. 1.3 Determine gas testing regime/sampling pattern required. 1.4 Identify hazards from possible atmosphere contaminants. 1.5 Implement hazard control measures, including use of appropriate personal protective equipment.
2. Test gas.	2.1 Use gas testing equipment to test gas as required. 2.2 Interpret and report readings. 2.3 Monitor gas on an ongoing basis as required. 2.4 Take required action(s) if readings are unacceptable.
3. Maintain equipment.	3.1 Clean and maintain gas testing equipment in accordance with procedures. 3.2 Inspect and fault find monitoring equipment in accordance with procedures. 3.3 Return gas testing equipment to required location and in required condition. 3.4 Maintain records of tests and results in accordance with procedures.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. As may be relevant to the plant/site/process, knowledge of the following may be required:

- common chemical asphyxiants, including hydrocarbons, carbon dioxide, carbon monoxide, hydrogen cyanide, and hydrogen sulphide
- common irritants and corrosives, including chlorine, ammonia and acid bases
- common flammable gases, including acetylene, petroleum, methane, ethane, propane and butane
- narcotics
- (explosive range, upper and lower explosive limits)
- exposure standards (time weighted average, short term exposure limits, peak limitation values, examination of toxic effect at the level of a range of flammable gases)
- conditions under which atmospheres become hazardous
- units of measurement used to express concentration of atmospheric contaminants (mg/cubic m. ppm, % v/v).

Underpinning skills could include interpretation and communication of results of sampling.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret a meter and then communicate the conclusions.

Writing is required to the level of completing required workplace reports/forms.

Numeracy read the instrument and interpret the results as being safe/not safe and so determine the required actions.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- apply personal safety principles
- interpret atmospheric conditions using atmospheric monitoring equipment
- recommend appropriate action
- maintain monitoring equipment.

Consistent performance should be demonstrated. For example, look to see that:

- gathered evidence covers a range of variables, all using different types of monitoring equipment.

Assessment method and context

Assessment will occur using industrial test equipment on an industrial site/plant and will be undertaken in a work-like environment.

Competence in this unit may be assessed:

- through written assignments
- by a demonstration activity using workplaces/atmospheres with detectable but safe levels of contaminants should be used
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent they form part of the assessment method.

Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

Working environment may be hazardous, unpredictable, subject to time pressure, chaotic and expose responders to risk, on land or water, by day or night.

Safety information and procedures must include relevant legislation, Australian Standards, codes of practice, manufacturer instructions and organisational procedures.

Situations include

- confined spaces
- enclosed and partially enclosed spaces

- storage tanks, silos, pits, pipes, shafts, ducts, transport vehicles and ships
- testing as part of issuing a work permit
- monitoring as part of working under a work permit
- open areas
- holding the gas tester by hand
- lowering the gas tester into a space, eg on a line.

Workplace atmospheres may

- include visible and invisible hazards
- include hazardous surfaces
- range from safe to unsafe.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

All operations to which this unit applies are subject to stringent Health, Safety and Environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Tools and equipment

This competency includes use of equipment and tools such as:

- portable instruments
- radiation detectors
- sampling tubes and pumps
- oxygen level meter
- carbon monoxide detector
- combustible gas detectors.

Problems

'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems'.

Unit Sector(s)

Not applicable.

MSAPMOPS400A Optimise process/plant area

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the ability to optimise the process performance of a complete plant area. It includes ensuring that production systems comply with Health, Safety and Environment (HSE) requirements, that process, plant and equipment utilisation is planned and carried out, and that problems are solved to fully meet operational needs and ensure that production of finished goods meets customer requirements.

Application of the Unit

Application of this unit

This competency requires the application of detailed operational and process knowledge, including the principles of operation of equipment, and the chemistry and/or physics and/or biology/biochemistry of changes to materials occurring during processing. It embodies a significant breadth and depth of technical knowledge and process understanding.

Assessment of this competency should ensure that the applicant can apply this knowledge to a process, and should typically rely on the applicant undertaking, or leading, a significant process improvement project.

This competency is typically performed by a senior operator, team leader or frontline manager.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit **has** prerequisites of

- MSAPMSUP390A Use structured problem solving tools
-

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.
1. Analyse and evaluate current plant, equipment and processes.	1.1 Compare actual process, plant and equipment performance with requirements and/or historical data/records and/or design performance. 1.2 Identify abnormal or sub-optimal process, plant and equipment performance. 1.3 Identify hazards associated with the plant and equipment. 1.4 Collect and evaluate product, materials and/or process records to determine possible causes for sub-optimal performance. 1.5 Use appropriate techniques to rank possible causes from most to least probable cause.
2. Develop plan for corrective and/or optimisation action.	2.1 Analyse cause(s) to determine appropriate corrective action. 2.2 Predict the impact of a change in one unit/area on other related plant units/areas. 2.3 Predict the impact of a change on health, safety and environmental performance 2.4 Develop measurable objectives and evaluate alternatives. 2.5 Identify requirements to implement change. 2.6 Consult with stakeholders regarding planned changes and impacts. 2.7 Develop optimisation plan taking account of hazards identified and HSE implications and communicate to appropriate personnel. 2.8 Evaluate optimisation action to determine measures of effectiveness.
3. Coordinate corrective and/ or optimisation action plan	3.1 Coordinate all appropriate unit areas and operations in order to rectify problem causes in process, plant and equipment performance. 3.2 Initiate and/or implement all required corrective/ optimisation actions. 3.3 Communicate corrective/optimisation outcomes to all relevant personnel. 3.4 Implement procedures/systems to eliminate possible

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.
	<p>future causes.</p> <p>3.5 Record and maintain log of all relevant information.</p>
4. Develop continuous improvement strategies.	<p>4.1 Review sources of information to identify possible factors causing sub-optimal performance.</p> <p>4.2 Identify options for removing or controlling the risk of sub-optimal performance.</p> <p>4.3 Assess the adequacy of existing control and quality methods and systems.</p> <p>4.4 Identify opportunities to continuously improve performance.</p> <p>4.5 Develop recommendations for continual improvement of process, plant and equipment effectiveness.</p> <p>4.6 Consult with appropriate personnel and implement continuous improvement strategies.</p> <p>4.7 Document implementation of continuous improvement strategies.</p>

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Knowledge and understanding of the:

- equipment,
- processes
- systems

sufficient to

- identify hazards associated with the process
- recognise opportunities to improve and/or enhance the quality of performance of the plant.

This knowledge needs to include:

- the relevant technical theory of the plant area
- an in depth understanding across the entire plant area
- the organisation standard procedures and work instructions
- relevant regulatory requirements, including those related to OHS risk control as appropriate to process/plant area optimisation.

Competence includes the ability to:

- apply analytical skills which enable corrective or optimal conditions to prevail
- identify and control hazards by applying the hierarchy of control as part of the optimisation process
- interpret information and make appropriate process control decisions.

Competence includes the ability to distinguish between:

- optimum and marginal performance of the plant
- effective and marginal performance corrections and actions.

as is relevant to the practical operation of all major equipment/process/systems within the area.

Optimising process systems requires application of detailed operational and process knowledge to address issues such as:

- starting material quality
- yield maximisation
- throughput maximisation
- energy efficiency
- use of utilities
- labour utilisation
- overall cost
- efficient use of equipment
- reducing downtime
- minimisation of waste and rework
- improved workplace layout and workflow.

Language, literacy and numeracy requirements

This unit requires the ability to communicate at all levels about what may be complex technical matters. It also requires the ability to evaluate complex information and sort often conflicting information into *useful* and *distracting* and to rank/prioritise information. Writing is required to the level of reading and interpreting technical information, developing and modifying plans and procedures and interpreting relevant regulatory requirements. Numeracy is required to the level of analysing product/process performance data, interpreting process condition information and deriving useful information from technical brochures, papers and similar. Calculation will be required to assist this and to determine priorities for optimisation plans (ie benefit/cost or other quantitative criteria)

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Competence must be demonstrated in the ability to analyse and evaluate current production performance, and develop and implement plans to optimise process systems.

While the technician is expected to take a lead technical role, and to demonstrate competence as defined above, optimisation is rarely undertaken by an individual alone and liaison with all relevant stakeholders is an expected part of this competency.

Where the assessee does not currently possess evidence of competency in *MSASUP390A Use structured problem solving tools*, it may be coassessed with this unit.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that the equipment/process/system be understood in depth and that the importance of critical material properties/settings/readings is known. Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action.

Consistent performance should be demonstrated. For example, look to see that:

- non-routine problems are recognised and defined
- hazards are identified and controlled by applying the hierarchy of control
- possible causes of complex problems are identified based on experience and the use of analytical techniques in solving the problem, including identifying variations and cause, separating single problems from multiple problems and the recognition of recurring problems
- fundamental cause of process or equipment faults is determined
- corrective/preventative actions are developed to avoid recurrence of the problem and optimise the condition of the process, plant and equipment
- product quality and uniformity are maintained.

Competence must be demonstrated in the operation of all ancillary equipment to the level required for this competency unit.

Competence also includes the ability to implement improvements within appropriate time constraints and in a manner relevant to the operation of the equipment, processes and systems.

Context of assessment

Competence in this unit may be assessed by:

- observation over time in a processing plant allowing for adequate assessment of operation under all normal and a range of abnormal conditions. Where this is not practical, additional assessment techniques must be used.
- using a suitable simulation and/or a range of case studies/scenarios
- undertaking a specific project based in the plant
- a combination of these techniques.

Method of assessment

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This unit describes the work conducted by senior operators, team leaders or front line managers who optimise process systems as part of their work function. It includes all items of equipment and unit operations which form part of the production process of a complete area. Typical problems will require the application of detailed operational and process knowledge over the entire production/manufacturing area, including the principles of operation of the equipment and the chemistry, physics, biology and/or biochemistry of the changes to materials occurring within that area.

All operations are performed in accordance with organisation procedures, licensing requirements, legislative requirements and industrial awards and agreements.

Procedures

All operations are performed in accordance with procedures. Procedures means all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. These may include or have been prepared from/to comply with:

- industry codes of practice
- materials safety data sheets
- equipment manuals
- equipment start up, operation and shut down procedures
- calibration and maintenance schedules
- quality manuals and procedures
- organisation recording and reporting procedures
- production and laboratory schedules
- material, production and product specifications.

Data/records

Historical data/records may include:

- hazard logs
- incident reports
- maintenance records
- product non-conformance reports
- production records.

Implementing change

Requirements to implement change may include:

- changes to procedures
- training of operators
- equipment modifications
- ensuring all HSE requirements are addressed.

Relevant/appropriate personnel

Relevant/appropriate personnel may include:

- managers
- OHS representatives and OHS committee.

Relevant information

Relevant information logged to include:

- modifications to plant or equipment
- modifications to procedures or practices.

Sources of information

Sources of information may include:

- hazard logs
- incident reports
- maintenance records
- work practices

- procedures
- industry journals
- equipment supplier information
- industry best practice information.

Health, Safety and Environment (HSE)

All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Unit Sector(s)

Not applicable.

MSAPMOPS401A Trial new process or product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency typically applies to a technician in a plant who is taking a lead technical role in the trialling of a new product or the trialling of a new or significantly altered process. This competency does not apply to minor modifications to existing products or processes.

Similarly it does not apply to a technician or operator taking part in such trials, and/or who is following directions set by the technician, chemist, engineer, supervisor or manager.

The technician is expected to be a technical expert in that part of the plant/process where the trial is being conducted.

Application of the Unit

Application of this unit

The technician would be expected to operate and control all equipment required for the trial. Generally the technician would be part of a team during the trial, and would usually be working in conjunction with a process/product development expert such as a chemist or engineer. The technician is often the most technically competent member of an operational team. As such they may not have the 'hands on' role of operating items of equipment, but they are expected to have the competence to direct the operation of equipment as appropriate throughout the trial. At all times they would be liaising and cooperating with other members of the team.

Trialling refers to the scale-up and other development steps required to take a new product or process from its design/laboratory trials to full commercial operation on a plant. Trialling may be done on a pilot plant where available and/or on a full scale plant.

The technician would:

- identify and rectify operational problems within their scope
- analyse the trial, both while it is occurring and after completion, and suggest improvements
- be alert for indications of developing problems and take required action to ensure the trial remains safe to people, the environment and the plant.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.
1. Contribute to the selection of equipment/process conditions.	1.1 Liaise with appropriate technical expert(s). 1.2 Interpret properties of materials and desired product characteristics. 1.3 Interpret technical specifications/drawings of plant requirements. 1.4 Recommend equipment/ancillary equipment appropriate for the materials, products and conditions. 1.5 Recommend process conditions appropriate for the equipment, materials and product characteristics. 1.6 Recommend feed rates/order/condition appropriate to the process conditions, equipment, materials and product characteristics. 1.7 Ensure hazard identification and analysis procedures are completed, including consultation with stakeholders, and findings included in plan. 1.8 Ensure recommendations meet the identified need.
2. Prepare for trials.	2.1 Determine the availability of resources required such as materials, equipment, people and skills. 2.2 Estimate time required for trial. 2.3 Liaise with relevant stakeholders. 2.4 Schedule trial at a convenient time. 2.5 Develop documentation for the trial. 2.6 Identify potential hazards and required hazard control procedures by applying the hierarchy of control. 2.7 Determine clearance requirements and special safety and storage requirements. 2.8 Verify decisions with appropriate experts/stakeholders. 2.9 Ensure people with adequate skills are available for the trial.
3. Conduct test runs/trials	3.1 Ensure hazard controls are implemented prior to commencement. 3.2 Run trials. 3.3 Maintain communication with all relevant people.

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.
	3.4 Closely monitor critical parameters. 3.5 Recognise actual and potential problems. 3.6 Make adjustments to process conditions as required during trial. 3.7 Sample and test product as required. 3.8 Record and report performance data. 3.9 Ensure all materials, products and waste are handled correctly. 3.10 Leave plant in a condition suitable for routine production to recommence.
4. Evaluate results and identify modifications.	4.1 Interpret data from trial. 4.2 Identify factors which might be related to low rates or low charge amounts. 4.3 Recommend modifications and improvements required. 4.4 Develop and check standard operating procedure. 4.5 Complete documentation and report to appropriate personnel. 4.6 Ensure all relevant staff have required skill levels for the introduction of the new process.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. Competence includes an understanding of the plant systems and all integral equipment involved in the trial to the level needed to control the system and recognise and resolve problems. In particular it includes the ability to:

- identify all items on a schematic of the plant and describe the function of each
- describe the nature/condition of materials entering and leaving each stage of the process, the changes which have occurred in that stage and why they have occurred
- state the major design features of plant equipment, plant conditions and variables and the impact of these on the properties of materials passing through them
- describe the causes and remedies of common problems such as those selected in the Range Statement
- apply the hierarchy of control to minimise the risk of hazards identified
- describe methods of changing rate and the advantages and disadvantages of each
- describe methods of controlling other process variables and the advantages and disadvantages of each.

Competence also includes the ability to isolate the causes of problems to an item of equipment within the plant system and to be able to distinguish between causes of problems/alarm/fault indications such as:

- process material variations
- instrument failure/wrong reading
- electrical failure
- mechanical failure
- operational problem.

Language, literacy and numeracy requirements

This unit requires the ability to communicate and liaise with people at a range of levels about technical matters.

Reading is required to the level of interpreting technical specifications, manuals and procedures; and writing technical documentation such as specifications and procedures required for the trial.

Numeracy is required to the level of interpreting technical specifications and test results, analysing process data and determining required variations in process variables.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency.

Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.

Critical aspects

It is essential that competence is demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action. The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster.

Consistent performance should be demonstrated. For example, look to see that:

- hazards are identified and controlled
- early warning signs of equipment/processes needing attention or with potential problems are recognised
- the range of possible causes can be identified and analysed and the most likely cause determined
- appropriate and timely action is taken to ensure the safety and success of the trial
- obvious problems in related plant areas are recognised and an appropriate contribution made to their solution.

Context and method of assessment

This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of 'what if' scenarios both on the plant (during demonstration of normal operations and walk throughs of abnormal operations) and off the plant.

Competence in this unit may be assessed:

- using a pilot plant or a production plant as appropriate
- using a range of scenarios/case studies and 'what ifs' as the stimulus with a walk-through forming part of the response
- using a range of problems, including new, unusual and improbable situations which may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities and similar sources
- using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge; and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This unit includes all items of equipment and unit operations which form part of the trial.

Liaison

Liaison with technical experts may (depending on trial requirements and company protocols) include one or more of:

- manufacturers
- chemists
- engineering personnel
- designers
- OHS advisors
- maintenance personnel
- potential customers.

Hazard analysis

Hazard analysis procedures may include:

- JSA/JHA (Job Safety Analysis/Job Hazard Analysis)
- hazard and operability (HAZOP) studies
- hazard analysis (HAZAN) studies
- other company specified procedures.

It is not expected that the candidate will be able to conduct technical hazard analysis procedures (such as HAZOP or HAZAN) but they should be able to interpret and use the outcomes of such analyses where relevant.

Hazards

Hazards may be determined from:

- materials safety data sheets (MSDSs)
- other relevant documentation such as hazard logs, incident reports
- company hazard identification procedures
- hazard analysis results
- standard operating procedures.

Waste handling

Waste handling may include:

- collection for re-use
- recycling
- disposal in accordance with health and environmental regulations.

Problems

Typical problems for the trial might include:

- mixing is poor
- materials do not behave as expected
- process/reaction does not proceed /proceeds too slowly
- process/reaction proceeds too quickly/runs away
- yield is low
- quality is out of specification
- process is unstable
- instrumentation is not sufficiently sensitive/too sensitive
- variable catalyst activity
- surging flow/pressure.

Health, Safety and Environment (HSE)

All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations are performed in accordance with procedures.

Procedures means all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Unit Sector(s)

Not applicable.

MSAPMOPS404A Co-ordinate maintenance

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit applies to employees who coordinate maintenance of a manufacturing facility. It applies to all sectors of the industry.

This competency is typically performed by experienced technicians, supervisors, maintenance coordinators or team leaders, working either independently or as part of a team.

Application of the Unit

Application of this unit

This competency applies to supervisors and technicians who are required to apply knowledge of equipment operating principles, service requirements and workplace production operations to the coordination of maintenance activities. The key factors are the coordination of maintenance activities to meet the objectives of restoring the plant/equipment condition, consistent with production requirements.

The technician will:

- identify and plan maintenance work consistent with production requirements
- interpret data and information on equipment
- develop and monitor workplans for the maintenance activities
- organise materials, consumables and personnel to meet the maintenance objectives
- check tools, equipment, materials and output for conformity to job requirements
- complete logs and reports.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the evidence guide.
1. Plan maintenance.	1.1 Develop work plans for scheduled routine maintenance activities. 1.2 Develop maintenance plans for unscheduled maintenance activities. 1.3 Source maintenance providers (internal/external). 1.4 Develop costings for maintenance work. 1.5 Implement measures to control identified hazards in line with procedures and duty of care. 1.6 Document and record required production interruptions, processes and procedures. 1.7 Obtain clearances for the maintenance work.
2. Organise maintenance.	2.1 Schedule maintenance activities, with reference to production requirements and availability of resources. 2.2 Review available maintenance expertise and arrange appropriate training and assessment where necessary. 2.3 Obtain approvals for maintenance schedule as necessary to coordinate with production requirements.
3. Assemble maintenance requirements.	3.1 Determine resources required (equipment, personnel and consumables) to meet maintenance schedule. 3.2 Locate and coordinate supply of consumables, equipment and expertise to meet maintenance schedule. 3.3 Purchase equipment, consumables and expertise as required.
4. Complete maintenance.	4.1 Complete maintenance schedule. 4.2 Make appropriate readings, measurements and recordings and compare to equipment, product and other relevant specifications. 4.3 Identify areas requiring further testing and recommend appropriate procedures to supervisory staff. 4.4 Make appropriate adjustments to the maintenance schedule.

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the evidence guide.
	4.5 Complete records as required, noting areas where changes to equipment operation or routine maintenance are required.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. Application of knowledge and understanding of equipment operation, planning and maintenance practices sufficient to plan for maintenance requirements in standard and non-standard situations and then determine appropriate action which is consistent with operation guidelines is required.

Knowledge of the enterprise's procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards.

Application of the knowledge of managing risks using the hierarchy of controls applied to the process. Application of approved hazard control, safety procedures and the use of PPE in relation to handling materials, equipment operation and clean up.

Knowledge as a basis for solving processing and material problems, including:

- characteristics and capabilities of equipment, materials and processes used
- functions and troubleshooting of internal components and their problems
- routine and non-routine causes of equipment failures and the service conditions which may increase maintenance
- urgency and timeliness factors in planning maintenance activities in relation to production requirements
- proactive, predictive, preventative and reactive maintenance principles
- implications of maintenance for production and work activities
- source requirements for maintenance
- safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup
- the hierarchy of control including engineering controls.

Competence also includes the ability to:

- identify factors in production schedules, time and resource requirements (including external sources) in scheduling maintenance activities
- schedule maintenance functions in the most timely and cost effective manner
- apply relevant agreements, codes of practice or other legislative requirements
- ensure workplace is safe for maintenance activities.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical manufacturer specifications, equipment procedures, production schedules and material labels as provided to coordinators. Writing is required to the level of completing workplace reports and proposals.

Numeracy is also required, eg analysing statistical information/historical data in the form of tables and graphs

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the ability to:

- recognise potential situations requiring action
- implement appropriate action.

Consistent performance should be demonstrated. For example, look to see that:

- early warning signs of equipment in need of attention/with potential problems are recognised
- planned work sequences are logical and conform with production schedules and work rosters
- maintenance schedules for reactive, planned and proactive maintenance are coordinated based upon the most appropriate and cost effective method to ensure equipment reliability and optimum performance
- plans are initiated and monitored, with activities modified for variations in workplace contexts and the environment, until final resolution has occurred.

Assessment method and context

It is preferred that assessment takes place in an industrial work environment.

Competence in this unit may be assessed:

- on a processing plant allowing for operation under all normal and a range of abnormal conditions
- in a situation allowing the generation of evidence of the ability to recognise, anticipate and solve problems
- using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to all work environments and sectors within the manufacturing industry. It does not include maintenance which would require trade level skills. It is not intended that this competency would cover performing maintenance which is carried on in a workshop.

This may include:

- predictive and preventative operational maintenance
- proactive maintenance
- reactive maintenance.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- hand tools specific for the task
- testing equipment
- measuring and aligning equipment
- computer equipment
- relevant personal protective equipment.

Hazards

Typical hazards to be considered, include:

- isolations of energy sources, motive power and process materials
- manual handling of machinery components and the need for lifting devices
- hot, cold or components containing dangerous materials
- external hazards (eg traffic into a maintenance area)

Problems

Respond to/rectify 'non-routine problems' means 'apply known solutions to a variety of predictable problems'.

Typical process and product problems which may require maintenance, include:

- equipment performance outside of specification or requirements
- equipment breakdown
- equipment wear and tear.

Variables

Key variables to be monitored include:

- relationship of maintenance plan to production requirements
- costs of maintenance
- availability of materials and services
- documentation and record keeping.

Data and Records

Typical information sources, observed data and plant records may include:

- plant data
- log sheets
- production schedules
- operational and performance reports
- physical aspects such as noise, smell, feel and pressure
- condition monitoring information
- planned maintenance schedules
- standard operating procedures
- manufacturer instructions, specifications and service manuals
- machine circuit diagrams for hydraulic/pneumatic and electrical/electronic circuits
- plant description manuals.
-

Unit Sector(s)

Not applicable.

MSAPMOPS405A Identify problems in fluid power system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the recognition and diagnosis of control system problems in hydraulic/pneumatic control systems on process equipment. It includes the implementation of appropriate corrective action. It applies to all sectors of the industry.

This competency is typically performed by technicians working either independently or as part of a work team.

Application of the Unit

Application of this unit

This competency applies to operators who are required to apply knowledge of fluid power systems and components to the identification and isolation of faults in equipment. The key factors are the diagnosis and the recommendation of action to resolve routine and non-routine faults, in order to return the equipment to production.

The technician will:

- identify and plan scope of equipment checks
- check settings, adjustments and performance of equipment
- identify and isolate faults in equipment
- propose solutions and carry out solutions within scope of authority
- complete logs and reports.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA
1. Identify pneumatic/hydraulic control system problems.	<p>Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.</p> <p>1.1 Categorise the types of machine malfunctions due to fluid power faults.</p> <p>1.2 Describe the effects on product quality of fluid power problems.</p> <p>1.3 Isolate possible faulty components from a circuit diagram and knowledge of the function of each component.</p>
2. Implement appropriate corrective action.	<p>2.1 Examine other possible faults.</p> <p>2.2 Shortlist possible fault causes.</p> <p>2.3 Conduct investigations of machine, products or data to determine most likely fault cause(s).</p> <p>2.4 Take appropriate action to ensure fault is rectified.</p> <p>2.5 Follow up on action to ensure completion in an appropriate time frame.</p> <p>2.6 Recheck after corrective action to ensure fault has been rectified.</p>
3. Identify maintenance requirements.	<p>3.1 Check manufacturer instructions to determine recommended maintenance schedule.</p> <p>3.2 Check fault and maintenance history to determine adequacy of current regime and special requirements.</p> <p>3.3 Determine criticality of machine to production/business.</p> <p>3.4 Develop maintenance schedule/requirements for machine.</p> <p>3.5 Liaise with all relevant stakeholders to ensure schedule is appropriate.</p> <p>3.6 Report outcome to appropriate personnel.</p>
4. Identify pneumatic/hydraulic control system problems.	<p>4.1 Categorise the types of machine malfunctions due to fluid power faults.</p> <p>4.2 Describe the effects on product quality of fluid power problems.</p> <p>4.3 Isolate possible faulty components from a circuit diagram and knowledge of the function of each component.</p>
5. Implement appropriate	5.1 Examine other possible faults.

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
corrective action.	5.2 Shortlist possible fault causes. 5.3 Conduct investigations of machine, products or data to determine most likely fault cause(s). 5.4 Take appropriate action to ensure fault is rectified. 5.5 Follow up on action to ensure completion in an appropriate time frame. 5.6 Recheck after corrective action to ensure fault has been rectified.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Knowledge and understanding of the process and the interaction of process conditions on product quality sufficient to recognise and analyse control system faults.

Knowledge of organisation procedures and policies along with the ability to implement them within appropriate time constraints and in a manner relevant to the job.

Application of the knowledge of managing risks using the hierarchy of controls applied to the process. Application of approved hazard control, safety procedures, use of PPE in relation to handling materials, equipment operation and clean up.

Knowledge as a basis for solving hydraulic system problems, including:

- principles of hydraulics/pneumatics
- fluid power circuit diagrams
- principles of circuit components
- appropriate testing procedures and use of equipment for a range of equipment faults
- urgency and timeliness factors in planning maintenance activities in relation to production requirements
- collection, analysis and reporting of data.

Competence also includes the ability to:

- identify and select testing methods based on cost and time effectiveness
- conduct inspections, checks and tests on equipment as appropriate
- read and interpret circuit diagrams for mechanical, hydraulic, pneumatic and electrical/electronic operating systems
- use technical information and manufacturer information to locate relevant data
- interpret technical specifications and manufacturer instructions
- ensure workplace is safe for testing and maintenance of equipment
- identify hazards of the materials and process
- implement appropriate procedures for hazard control
- use PPE, safely handle products and materials, read relevant safety information and apply safety precautions appropriate to the task.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret technical specifications and manufacturer manuals.

Writing is required to the level of writing procedures and schedules. Basic numeracy is also required to allow the interpretation of machine and product data and the comparison of actual with desired readings.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the ability to:

- recognise potential situations requiring action and then in implementing appropriate action.

Consistent performance should be demonstrated. For example, look to see that:

- machine reliability is high.

Assessment method and context

It is preferred that assessment takes place on industrial equipment in a work environment.

Competence in this unit may be assessed:

- on a processing plant allowing for operation under all normal, and a range of abnormal, conditions
- in a situation allowing the generation of evidence of the ability to recognise, anticipate and solve problems
- using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom.

Additional resources might include the provision of equipment with known faults/problems to allow for assessment of the ability to identify problems.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency unit includes all common equipment used in the manufacturing industry and should be able to be applied to all equipment using fluid power control systems.

This competency applies to all work environments and sectors within the manufacturing industry. It assumes an understanding of the operation of all relevant equipment and processes but does not necessarily require them to be used personally.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions, manufacturer information and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- pumps
- pressure controls
- DCVs (directional control valves)
- flow control actuators
- accumulators
- filters
- heat exchangers
- proportional, servo and cartridge valves.

Hazards

Typical hazards include:

- high pressures (hydraulic and pneumatic)
- hot surfaces
- hydraulic oil spills and leakage
- noise.

Problems

Respond to/rectify 'non-routine problems' means 'apply known solutions to a variety of predictable problems'.

Distinguish between causes of faults such as:

- control system failure
- process condition
- materials
- component types.

Typical process and product problems may include:

- loss of flow, power
- power failure
- oil leaks (internal and external)
- component malfunction
- poor maintenance procedures
- regular maintenance
- shutdown
- using accumulator as emergency source
- motor failure effect on cycle time
- pressure loss

- short shots
- loss of clamp pressure
- oil temperature.

Variables

Key variables to be monitored include:

- oil levels
- temperatures
- cavitation/aeration/noise
- cleanliness
- poor performance
- safety aspects.
-

Unit Sector(s)

Not applicable.

MSAPMOPS406A Identify problems in electronic control systems

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the recognition and diagnosis of control system problems in electrical/electronic control systems on process equipment. It includes the implementation of appropriate corrective action. It applies to all sectors of the industry.

This competency is typically performed by technicians working either independently or as part of a work team.

Application of the Unit

Application of this unit

This competency applies to operators who are required to apply knowledge of electronic control systems and components to the identification and isolation of faults in equipment. The key factors are the diagnosis and the recommendation of action to resolve routine and non-routine faults, in order to return the equipment to production.

The technician will:

- identify and plan scope of equipment checks
- check settings, adjustments and performance of equipment
- identify and isolate faults in equipment
- propose solutions and carry out solutions within scope of authority
- complete logs and reports.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA
1. Identify electrical/ electronic control system problems.	<p>Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.</p> <p>1.1 Categorise the types of machine malfunctions due to electrical/electronic faults.</p> <p>1.2 Describe the effects on product quality of electrical/electronic problems.</p> <p>1.3 Isolate possible faulty components from a circuit diagram and knowledge of the function of each component.</p>
2. Implement appropriate corrective action.	<p>2.1 Examine other possible faults.</p> <p>2.2 Short list possible fault causes.</p> <p>2.3 Conduct investigations of machine, products or data to determine most likely fault cause(s).</p> <p>2.4 Take appropriate action to ensure fault is rectified.</p> <p>2.5 Follow up on action to ensure completion in an appropriate time frame.</p> <p>2.6 Recheck after corrective action to ensure fault has been rectified.</p>
3. Identify maintenance requirements.	<p>3.1 Check manufacturer instructions to determine recommended maintenance schedule.</p> <p>3.2 Check fault and maintenance history to determine adequacy of current regime and special requirements.</p> <p>3.3 Determine criticality of machine to production/business.</p> <p>3.4 Develop maintenance schedule/requirements for machine.</p> <p>3.5 Liaise with all relevant stakeholders to ensure schedule is appropriate.</p> <p>3.6 Report outcome to appropriate personnel.</p>
4. Identify electronic control system problems.	<p>4.1 Categorise the types of machine malfunctions due to electronic control system faults.</p> <p>4.2 Describe the effects on product quality of electronic control system problems.</p> <p>4.3 Isolate possible faulty components from a circuit diagram and knowledge of the function of each component.</p>
5. Implement appropriate	5.1 Examine other possible faults.

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
corrective action.	5.2 Shortlist possible fault causes. 5.3 Conduct investigations of machine, products or data to determine most likely fault cause(s). 5.4 Take appropriate action to ensure fault is rectified. 5.5 Follow up on action to ensure completion in an appropriate time frame. 5.6 Recheck after corrective action to ensure fault has been rectified.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Knowledge and understanding of the process and the interaction of process conditions on product quality sufficient to recognise and analyse control system faults.

Knowledge of organisation procedures and policies along with the ability to implement them within appropriate time constraints and in a manner relevant to the job.

Application of the knowledge of managing risks using the hierarchy of controls applied to the process. Application of approved hazard control, safety procedures, use of PPE in relation to handling materials, equipment operation and clean up.

Knowledge as a basis for solving electronic control system problems, including:

- fundamentals of electricity and electronics
- electronic circuit diagrams
- principles of electronic circuit components
- principles of PLC programming, troubleshooting and diagnosis
- appropriate testing procedures and use of equipment for a range of equipment faults
- urgency and timeliness factors in planning maintenance activities in relation to production requirements
- collection, analysis and reporting of data.

Competence also includes the ability to:

- identify and select testing methods based on cost and time effectiveness
- conduct inspections, checks and tests on equipment as appropriate
- read and interpret circuit diagrams for mechanical, hydraulic, pneumatic and electrical/electronic operating systems
- use technical information and manufacturer information to locate relevant data
- interpret technical specifications and manufacturer instructions
- ensure workplace is safe for testing and maintenance of equipment
- identify hazards of the materials and process
- implement appropriate procedures for hazard control
- use PPE, safely handle products and materials, read relevant safety information and apply safety precautions appropriate to the task.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret technical specifications and manufacturer manuals.

Writing is required to the level of writing procedures and schedules. Basic numeracy is also required to allow the interpretation of machine and product data and the comparison of actual with desired readings.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

It is preferred that assessment takes place on industrial equipment in a work environment.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the ability to:

- recognise potential situations requiring action and then in implementing appropriate action.

Consistent performance should be demonstrated. For example, look to see that:

- machine reliability is high.

Assessment method and context

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Competence in this unit may be assessed:

- on a processing plant allowing for operation under all normal and a range of abnormal conditions
- in a situation allowing the generation of evidence of the ability to recognise, anticipate and solve problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom.

Additional resources might include the provision of equipment with known faults/problems to allow for assessment of the ability to identify problems.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency unit includes all common equipment used in the manufacturing industry and should be able to be applied to all equipment using electrical/ electronic control systems.

This competency applies to all work environments and sectors within the manufacturing industry. It assumes an understanding of the operation of all relevant equipment and processes but does not necessarily require them to be used personally.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- application and programming of PLC (programmable logic controls) and ancillaries
- application of solid-state control/switching units
- switches, relays and solenoids
- position and pressure transducers
- temperature controllers.

Hazards

Typical hazards include:

- electricity
- temperature from hot surfaces and equipment
- malfunctioning equipment
- test equipment.

Problems

Respond to/rectify 'non-routine problems' means 'apply known solutions to a variety of predictable problems'.

Typical process and product problems may include:

- loss of flow, power
- power failure
- component malfunction
- poor maintenance procedures
- regular maintenance
- shutdown
- motor failure effect on cycle time
- short shots
- loss of clamp pressure
- no power
- electronic/electrical faults
- analysis with PLC.

Variables

Key variables to be monitored include:

- temperatures
- cleanliness
- poor performance
- safety aspects.

-

Unit Sector(s)

Not applicable.

MSAPMPER200C Work in accordance with an issued permit

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor	<p>This unit aims to ensure that people working under a permit to work understand the system, know the limitations of the permit under which they are working and comply with all the requirements of the permit. The people to whom this unit applies may be called 'permit recipients' or 'permit holders' by some organisations. Some organisations call 'permits' 'clearances'</p> <p>This unit covers the basic competency of working under a permit. Where entry to a confined space is required, then <i>MSAPMPER205B Enter confined space</i> is also required. The safety observer (standby person) competencies are covered by <i>MSAPMPER202A Observe permit work</i>. Atmospheric testing is covered by <i>MSAPMOHS217A Gas test atmospheres</i>. The issuing of permits is covered by <i>MSAPMPER300B Issue work permits</i>.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This competency applies to persons who are required to conduct work activities under the authority of an issued permit to work and within the context and requirements of that permit. This typically applies to all work done by maintenance staff and contractors, and also to any other non-process work performed on the plant. It includes:</p> <ul style="list-style-type: none"> • identifying the range and scope of work covered by the permit • checking that the right type of permit has been issued for the type of work • adequately preparing to undertake the work, including obtaining all necessary safety equipment and PPE • undertaking the work strictly in accordance with the provisions of the permit • maintaining correct housekeeping with permit activities • completing work in accordance with the permit requirements • querying or raising matters about the permit if the scope of work/nature of the tools to be used varies from that covered by the permit • handing back the permit in accordance with procedures and obtaining appropriate sign off as required.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Pre-requisite Units	

Employability Skills Information

Employability Skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply for permit(s)	1.1. Confirm the scope and location of the work to be done 1.2. Identify the need for a work permit(s) for the work to be carried out. 1.3. Identify the type of work permit required. 1.4. Collate information required for the issue of the permit 1.5. Apply for the permit following the organisations requirements
2. Identify the scope of the permit.	2.1. Check that work to be done complies with the permit type. 2.2. Check that the scope and location of work comply with the permit issued 2.3. Check that the hazard controls specified on the permit are consistent with the hazard analysis 2.4. Check that preparations specified on the permit have been completed 2.5. Sign onto/receive the permit.
3. Prepare for permitted work.	3.1. Maintain safe working conditions and environment by using available isolation procedures, safety equipment and emergency procedures. 3.2. Monitor plant conditions and hazards to ensure work under the permit remains safe. 3.3. Ensure that appropriate safety equipment and clothing are selected and worn as required by the permit and relevant procedures. 3.4. Inspect work area to ensure safety and compliance with permit requirements and procedures.
4. Work in accordance with an issued permit.	4.1. Use required hazard reduction/control measures. 4.2. Comply with requirements of the permit including safety observer if required. 4.3. Display issued permit on work site as required 4.4. Ensure compliance with scope, location and timeframe specified in the permit or seek re-authorisation as required 4.5. Suspend job and make work site safe before leaving job. 4.6. Formally seek and receive authorised extensions to the permit when required. 4.7. Give end of day status report to permit issuer.
5. Complete permit(s) to work.	5.1. Obtain new permit(s) or have existing permit(s) revalidated before work is recommenced. 5.2. Check the work conducted against the issued permit(s) to ensure that all the nominated work requirements have been

ELEMENT	PERFORMANCE CRITERIA
	<p>satisfied.</p> <p>5.3. Monitor general housekeeping to ensure that the site has been left in a clean and safe condition.</p> <p>5.4. Ensure personal lockouts/tag outs/isolations are removed in accordance with procedures</p> <p>5.5. Communicate status of the work conducted and the results of the permit to relevant personnel.</p> <p>5.6. Complete documentation as required and have permit signed off when job is completed.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

Competence includes the ability to:

- access and interpret information relevant to specific tasks (eg labels, MSDSs hazchem signs)
- identify changes to conditions which may lead to the permit being revoked before the job is completed
- describe and/or explain hazards associated with tasks covered by the permit, types of tests required for the issue of work permits - the types of tests to include, atmospheric/oxygen/breathability, flammability/explosivity, toxicity/TWA, temperature, humidity
- the impact of the regulatory framework and organisation procedures under which the permit operates upon the particular job(s) requiring the permit.

Language, literacy and numeracy requirements

- This unit may require the ability to read and correctly interpret complex P&ID's; speak clearly and unambiguously in English; and to explain, describe and verify sometimes complex needs and issues.
- Writing is required to the level of completing workplace forms.
- Numeracy is required to the level of being able to correctly differentiate between high and low pressures and temperatures, voltages or masses.

Required knowledge:

Knowledge and understanding of the relevant OHS and environmental requirements, in particular those relating to various situations requiring work permits, with an ability to implement the requirements in a manner that is relevant to the job. Knowledge of the organisation's standard procedures and work instructions and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and in a manner relevant to the job.

Sufficient knowledge of all types of permits is required to ensure work is not carried out without the correct permit. This includes recognizing hot work and confined spaces.

Knowledge of regulatory frameworks should include:

- licence requirements for the job,
- company policy and procedures
- permit control systems

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment of this unit should demonstrate competence on actual plant and equipment in a work environment. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency.

Simulation may be required to allow for assessment of parts of this unit. Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competence must be demonstrated in the ability to distinguish between situations requiring the types of permit and to list the major requirements of each type of permit. The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster.

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- provide reasons for a permit system
- recognise the importance of different work permits
- comply with permit conditions including the wearing of appropriate personal protective equipment (PPE)
- take appropriate action to resolve faults or report faults to appropriate personnel
- explain and implement incident response procedures.

Consistent performance should be demonstrated, e.g. look to see that:

- communications are timely and effective
- deviations from permit conditions are recognised, reported, corrected and re-authorization arranged
- actions specified in the permit/standard procedures are carried out
- all safety procedures are followed.

Context of and specific resources

A holistic approach should be taken to the assessment.

EVIDENCE GUIDE**for assessment**

Assessment will occur over a range of situations which may include disruptions to normal, smooth operation.

Competence in this unit may be assessed:

- on a plant/in the work place/a work situation
- by using a suitable simulation based on the actual plant and including walk throughs of the relevant competency components and/or a range of case studies/scenarios and role plays
- by questioning and using 'what if' scenarios both on the plant (during demonstration of normal operations and walk throughs of abnormal operations) and off the plant
- through a combination of these techniques.

These aspects may be best assessed using a range of simulations/scenarios/case studies and 'what ifs' as the stimulus with a walk through forming part of the response. These assessment activities should cover a range of problems, including new or unusual situations which may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities and similar sources.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed. In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units.

While oral assessments may be appropriate there needs to be a written record for audit purposes.

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions which will be used to probe the reasoning behind the observable actions will also be required to the extent that they form part of the assessment method.

EVIDENCE GUIDE

<p>Method of assessment</p> <p>Guidance information for assessment</p>	<p>Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.</p> <p>Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.</p> <p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed and the safety standard required.</p>
--	--

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Codes of practice/ standards

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version/version specified by the local regulatory authority must be used.

Context

This unit typically applies to all work done by maintenance staff and contractors, and also to any other non-process work performed on the plant. All work is to be conducted using the appropriate personal protective equipment.

The types of work permits may include:

- cold work/general permit to work
- excavation
- hot work
- vehicle entry
- minor repairs
- working at heights
- other special permits.

Note that entry to a confined space is covered by *MSAPMPER205C Enter confined space*. The Australian Standard (AS2865) definition given for confined space entry is used in this Training Package.

All operations are performed in accordance with standard operating procedures (SOPs).

Checks to ensure a workplace is safe may include:

- process isolations complete
- mechanical and electrical isolations in place
- atmospheric testing complete and atmosphere safe. If it is not safe and cannot be made safe, then appropriate measures are implemented as per SOPs.
- relevant personnel informed of work and agree that it is safe and appropriate to proceed.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. These may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • legislation/codes • OHS legislation, codes of practice and guidance material • EPA • National and Australian standards • licence and certification requirements • internal permit control system. • process isolations complete • mechanical and electrical isolations in place • atmospheric testing complete and atmosphere safe. If it is not safe and cannot be made safe, then appropriate measures are implemented as per SOPs. • relevant personnel informed of work and agree that it is safe and appropriate to proceed.
Information required for permit	<p>Information required for a permit includes:</p> <ul style="list-style-type: none"> • work description • tools to be used • process/methods of work/SOPs • MSDSs • JHA/JSA/SWMSs
Tools and equipment	<p>This competency includes use of safety equipment and tools such as:</p> <ul style="list-style-type: none"> • eye protection (eg goggles) • ear protection • gloves • clothing • respiratory protection • helmets • safety footwear.
Hazards	<p>Typical hazards include:</p> <ul style="list-style-type: none"> • heat, smoke, dust or other atmospheric hazards • sharp edges, protrusions or obstructions • limited head spaces or overhangs • equipment or product mass • slippery surfaces, spills or leaks • noise, rotational equipment or vibration.
Display issued permit	<p>Display issued permit on work site means to have the permit on the worksite and displayed/ready to be shown as required by the site/job requirements and may include:</p> <ul style="list-style-type: none"> • displaying it in a provided mounting

RANGE STATEMENT	
	<ul style="list-style-type: none"> • having it accessible in a folder which is on the work site • having it folded in overall pockets in a manner which allows it to be readily shown on request.
Problems	<p>'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems'. Typical problems may include:</p> <ul style="list-style-type: none"> • provision of the wrong permit • incorrect information being supplied with the permit • errors being made in the understanding of permit data • failure to correctly correspond to the requirements of the permit • failure to seek clarification when anomalies occur.
Variables	<p>Key variables to be monitored include:</p> <ul style="list-style-type: none"> • sites under which permit activities must be applied • type of permit to be executed • types of tools and equipment to be employed • size of work team • scope and urgency of work.
Health, safety and environment (HSE)	<p>All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.</p>

Unit Sector(s)

Unit Sector

Competency field

Competency Field

Co-requisite units

Co-requisite Units		

MSAPMPER201A Monitor and control work permits

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the monitoring of the operational conditions in which a permit to work has been issued, and the required activities and functions associated with the production/process of chemical, hydrocarbons, oil, and other process manufactured products. This role may be carried out by the standby person or other appropriately qualified persons. While this competency carries with it high levels of responsibility the role is usually prescribed by the permit process and may be exercised by any competent operator.

Application of the Unit

Application of this unit

This competency applies to personnel who are required to monitor a work situation in which the activity is conducted under the auspices of a permit to work. During this activity the individual will monitor the work situation for conformance to the permit and will immediately intervene if the parameters of the permit are exceeded or work proceeds outside the boundaries set by the permit. It includes:

- identifying and understanding the requirements of the permit
- monitoring any changes in the conditions of work under the permit
- ensuring work sequences are followed as permitted by the permit
- constantly inspecting the site for changed work or site circumstances
- reporting any non-conformance with permit conditions
- withdrawing or causing work to cease outside permit conditions
- confirming conformance with permit conditions and reporting conclusion of activities.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA
1. Identify and monitor permit conditions.	<p>Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.</p> <p>1.1 Identify permit requirements.</p> <p>1.2 Monitor permit holder and conditions to ensure that the work being conducted conforms to the issued permit requirements.</p> <p>1.3 Identify and communicate changes in the operating conditions or requirements of the permit to permit holders to ensure they are kept aware of any hazards.</p>
2. Monitor work permit systems.	<p>2.1 Control work activities to comply with the organisation or site work permit system and safety procedures.</p> <p>2.2 Check and verify the permit holder's knowledge of the issued permit and its requirements before allowing any repair or maintenance work to be undertaken on the production/process equipment.</p> <p>2.3 Undertake site inspections to ensure that the work to be undertaken is in sequence and completed in a safe and coordinated manner.</p> <p>2.4 Identify hazards, and confirm with those undertaking the permitted work that control measures, as defined in the permit are established.</p>
3. Identify and action non-compliance.	<p>3.1 Identify conditions of active permits.</p> <p>3.2 Report and record incidents of non-compliance according to procedures.</p> <p>3.3 Take corrective action upon incidences of non-compliance with permit conditions through the withdrawal or suspension of the issued permit.</p>
4. Confirm compliance with permit.	<p>4.1 Complete checklists in accordance with standard <u>procedures</u>.</p> <p>4.2 Document and communicate findings to appropriate personnel.</p>

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. Knowledge and understanding of permit requirements sufficient to distinguish between situations requiring permits and then implementing the appropriate corrective action where required.

Knowledge of the organisation standard procedures and work instructions and relevant regulatory requirements, along with the ability to implement them within appropriate time constraints and in a manner relevant to the job.

Competence includes the ability to apply and/or explain:

- an awareness of hazards associated with the permit
- Australian Standard AS2865 - Safe working in a confined space and relevant legislation
- identification of container and goods coding and HAZCHEM markings
- production workflow sequences and requirements for working in confined spaces
- focus of operation of work systems and equipment
- application of relevant agreements, codes of practice and other legislative requirements
- hazards of the materials and process and appropriate hazard control procedures
- identification and correct use of equipment, processes and procedures
- planning own work including predicting consequences and identifying improvements; as is relevant to the practical completion of the job.

Demonstration of competence in this unit should include knowledge of the following as appropriate to the process:

- blank/blind lists and P&IDs
- tagging procedures
- isolation procedures
- incident response procedures, including evacuation
- gas types, toxicity and explosivity and limits of each
- oxygen levels
- area knowledge including plant and processes
- permit types and limitations
- product tolerances and specifications
- static electricity and cathodic protection
- environmental hazards
- hot work protective measures
- columns
- vessels
- fire fighting equipment
- blinds/blanks
- pumps
- compressors
- prime movers
- valves.

An understanding of alarm and communication systems is required.

The regulatory framework to include:

- OHS

- EPA
- OHS authorities and NOHSC
- licence and certification requirements
- company policy and permit control systems.

Language, literacy and numeracy requirements

This unit requires the ability to:

- read and correctly interpret complex P&IDs
- speak clearly and unambiguously in English
- explain, describe and verify sometimes complex needs and issues.

Writing is required to the level of completing workplace forms and producing reports.

Numeracy is required to the level of being able to correctly differentiate between high and low pressures and temperatures, voltages or masses.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

Assessment will occur using industrial equipment and will be undertaken in a work like environment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competence must be demonstrated in the ability to distinguish between situations requiring the major types of permit and to list the major requirements of each type of permit. The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster.

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- provide reasons for a permit system
- recognise the importance of different work permits
- comply with permit conditions including the wearing of appropriate personal protective equipment (PPE)
- take appropriate action to resolve faults or report faults to appropriate personnel
- explain and implement incident response procedures.

Consistent performance should be demonstrated. For example, look to see that:

- communications are timely and effective
- deviations from permit conditions are recognised, reported, corrected and re-authorisation arranged
- action specified in the permit/standard procedures is carried out
- all safety procedures are followed.

Assessment method and context

The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which may include disruptions to normal, smooth operation.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Competence in this unit may be assessed:

- on an operating plant over an extended period
- by using a suitable simulation based on the actual plant and including walk throughs of the relevant competency components and/or a range of case studies/scenarios and role plays
- by questioning and using 'what if' scenarios both on the plant (during demonstration of normal operations and walk throughs of abnormal operations) and off the plant
- through a combination of these techniques.

These aspects may be best assessed using a range of simulations/scenarios/case studies and 'what ifs' as the stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new or unusual situations which may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities and similar sources.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed. In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions which will be used to probe the reasoning behind the observable actions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

The application of this unit is defined by the level and area of responsibility.

Legislative and site specific safety procedures and/or requirements, including in hazard identification, assessment and application of control measures, must be met.

Compliance is required with:

legislation/codes:

- OHS
- EPA
- OHS authorities and NOHSC
- licence and certification requirements
- other relevant standards
- workplace specific permit control system.

Monitor means continual personnel presence to observe conditions of the workplace and work practices to ensure compliance with permit conditions. This may include:

- supervision/monitoring of contractors
- verification of permits, licences, tests
- document control
- compliance with legislation/codes.

Corrective action may include:

- ceasing job
- leaving the job site safe if it is safe and practical to do so
- report reason for ceasing job and request new permit when safe.

Indicative functions include:

- supervision/monitoring of contractors
- verification of permits, licences, tests
- document control
- compliance with legislation/codes.

This unit may be applied to either an individual or team related context within the workplace.

Procedures

All operations are performed in accordance with procedures.

Procedures cover all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. These may include:

- legislation/codes
- OHS legislation, codes of practice and guidance material
- EPA
- National and Australian standards
- licence and certification requirements
- internal permit control system.
- process isolations complete
- mechanical and electrical isolations in place
- atmospheric testing complete and atmosphere safe. If it is not safe and cannot be made safe, then appropriate measures are implemented as per SOPs

- relevant personnel informed of work and agree that it is safe and appropriate to proceed.

Tools and equipment

This competency includes use of equipment and tools such as:

- danger tags and lockouts
- out of service tags
- blinds/blanks
- blind/blank list
- gas testers and monitors
- lights
- ladders
- cathodic protection bonds
- barricades
- signage
- communications equipment
- process and equipment drawings.

The types of work permits may include:

- evacuation
- clearance
- hot work
- vehicle entry
- confined space
- minor repairs
- working at heights
- other special permits.

Safety equipment may include:

- eye protection (eg goggles)
- ear protection
- gloves
- clothing
- respirators and masks
- helmets.

Hazards

Typical hazards include:

- heat, smoke, dust or other atmospheric hazards
- sharp edges, protrusions or obstructions
- limited head spaces or overhangs
- equipment or product mass
- slippery surfaces, spills or leaks
- noise, rotational equipment or vibration.

Problems

'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems'. Typical process and product problems may include:

- provision of the wrong permit
- incorrect information being supplied with the permit

- errors being made in the understanding of permit data
- failure to correctly correspond to the requirements of the permit
- failure to seek clarification when anomalies occur.

Variables

Key variables to be monitored include:

- sites under which permit activities must be applied
- type of permit to be executed
- types of tools and equipment to be employed
- size of work team
- scope and urgency of work

Health, Safety and Environment (HSE)

All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Unit Sector(s)

Not applicable.

MSAPMPER205C Enter confined space

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor	This competency covers the entry to confined spaces, for maintenance, servicing of vessels or other necessary reasons. Work in/entry to confined spaces shall conform to relevant legislation and AS2865, or its authorised update or replacement.
------------------------	--

Application of the Unit

Application of the unit	<p>This competency applies to persons who are required to enter confined space, for maintenance purposes, for cleaning, inspection or other reasons. It is required by all persons who are required to enter a confined space, as defined by the standard AS2865, or its authorised update or replacement.</p> <p>This unit includes:</p> <ul style="list-style-type: none"> • preparing to enter the confined space • checking the preparations against the permit conditions • entering the confined space. <p>AS2865 requires reassessment 'at appropriate intervals'. The industry regards reassessment on a two to three year cycle as good practice.</p> <p>It is expected that all standby persons will also be competent to enter confined space. See <i>MSAPMPER202A Observe permit work</i> for the standby person competency.</p> <p>The issuing of confined space permits is covered by <i>MSAPMPER300B Issue work permits</i>.</p> <p>Some sites and situations will require competency in associated units as a site corequisite. Some of these possible units are identified in the Overview of Assessment. These additional units should be accessed and may be combined by the RTO as a skills set if appropriate.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Pre-requisite Units	<i>MSAPMPER200C</i>	<i>Work in accordance with an issued permit</i>

Employability Skills Information

Employability Skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess confined space for entry	1.1. Confirm and verify the purpose of the required entry. 1.2. Identify and assess hazards within/around the confined space. 1.3. Check a risk assessment associated with entry of the confined space has been conducted and documented. 1.4. Identify and document relevant controls. 1.5. Take appropriate steps to ensure confined space is ready for entry. 1.6. Check the incident/emergency response plan is appropriate to the job 1.7. Rehearse own role in an incident/emergency response 1.8. Confirm and verify that the conditions of the permit reflect the risk assessment 1.9. Check the confined space is ready for entry.
2. Use safety equipment and PPE	2.1. Secure work site 2.2. Select, fit and wear designated PPE. 2.3. Select, test and use required instruments and monitors. 2.4. Challenge test atmosphere/atmospheric monitoring instrument if required before entry. 2.5. Confirm test/monitoring results show entry is safe
3. Work in accordance with confined space requirements.	3.1. Enter confined space safely 3.2. Work in compliance with permit requirements. 3.3. Arrange re authorisation/reissue of permits as required. 3.4. Complete confined space working documentation. 3.5. Maintain communications with all relevant personnel. 3.6. Take appropriate action if there is a change in risk/work environment.
4. Conclude confined space operations in accordance with procedures.	4.1. Recover, clean, service and store equipment. 4.2. Complete required final documentation. 4.3. Report any issues.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

Competence includes the ability to:

- access and interpret information relevant to specific tasks (eg labels, MSDSs hazchem signs)
- access and apply hazard controls
- identify changes to conditions which may lead to the permit being revoked before the job is completed
- describe and/or explain hazards associated with tasks covered by the permit, types of tests required for the issue of work permits - the types of tests to include, atmospheric/oxygen/breathability, flammability/explosivity, toxicity/TWA, temperature, humidity
- interpret and respond to gas test/monitoring results/information.
- identify a change in work conditions, possible new hazards and so the required hazard controls and obtain revalidation of permit
- implement hazard controls

Language, literacy and numeracy requirements

This unit requires the ability to:

- read and correctly interpret required documentation relevant to the entry
- speak clearly and unambiguously in English
- explain, describe and verify sometimes complex needs and issues
- understand the permit requirements.

Writing is required to the level of completing workplace forms and producing any required reports.

Numeracy is required to the level of being able to correctly differentiate between high and low pressures and temperatures, voltages or masses and interpret gas test/monitoring results.

Required knowledge:

Knowledge and understanding of the relevant OHS and environmental requirements, in particular those relating to various situations requiring work permits, with an ability to implement the requirements in a manner that is relevant to the job. Knowledge of the organisation's standard procedures and work instructions and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and in a manner relevant to the job.

Sufficient knowledge of all types of permits is required to ensure work is not carried out without the correct written authority.

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of regulatory frameworks should include:

- OHS
- EPA
- OHS authorities and ASCC/NOHSC/state CSE regulations
- licence requirements
- company/organisation policy and permit control systems
- other relevant standards.

Knowledge of and the application to the job of relevant legislation and AS2865/2009, or its authorised update or replacement, is essential. Australian Standard HB 213-2003 Guidelines for Safe Working in Confined Spaces, or its relevant replacement, is also a useful reference.

Knowledge of the organisation's confined space procedures is required.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment of this unit may be undertaken as an individual unit or in combination with other relevant units. Other possible relevant units include:

- RIIRIS201A Conduct local risk control
- RIIOHS204A Work safely at heights
- MSAPMOHS200A Work safely
- MSAPMOHS216A Operate breathing apparatus
- MSAPMOHS217A Gas test atmospheres
- MSAPMPER200B Work in accordance with an issued permit
- MSAPMPER202A Observe permit work
- PUASAR005A Undertake confined space rescue.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competence must be demonstrated in the ability to distinguish between situations requiring different permits and to list the major applications and scope of each type of permit.

The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster.

As working in a confined space is inherently hazardous it is essential that the worker be able to demonstrate:

- recognition of a confined space
- the ability to work within a confined space
- compliance with the permit conditions
- recognition and control of atmospheric hazards
- use of confined space entry and exit equipment relevant to the site/job
- selection, use and maintenance of appropriate PPE
- use of communication equipment and processes applicable to confined space work
- completion of documents and records relevant to confined space work
- understanding of and the ability to initiate incident/emergency response plan.

Consistent performance should be demonstrated. For

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicized wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.</p>	
Codes of practice/ standards	<p>Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version/version specified by the local regulatory authority must be used.</p>
Confined space	<p>The Australian standard (AS2865-2009) definition given for confined space is used in this Training Package, i.e.:</p> <p>'An enclosed or partially enclosed space that is not intended or designed primarily for human occupancy, within which there is a risk of one or more of the following:</p> <p>(a) An oxygen concentration outside the safe oxygen range.</p> <p>(b) A concentration of airborne contaminant that may cause impairment, loss of consciousness or asphyxiation.</p> <p>(c) A concentration of flammable airborne contaminant that may cause injury from fire or explosion.</p> <p>(d) Engulfment in a stored free-flowing solid or a rising level of liquid that may cause suffocation or drowning.'</p>
Entry	<p>Entry to a confined space is defined by AS2865 as:</p> <p>'when a person's head or upper body is within the boundary of the confined space.</p> <p>NOTE: Inserting an arm for the purpose of atmospheric testing is not considered as entry to a confined space.'</p>
Procedures	<p>All operations are performed in accordance with procedures.</p> <p>Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. These may include:</p> <ul style="list-style-type: none"> • legislation/codes • OHS legislation, codes of practice and guidance material • EPA • National and Australian standards • licence and certification requirements where relevant • internal permit control system • process isolations complete

RANGE STATEMENT	
	<ul style="list-style-type: none"> • mechanical and electrical isolations in place • atmospheric testing complete and atmosphere safe or if not safe and cannot be made safe then appropriate measures are implemented as per procedures • relevant personnel informed of work and agree that it is safe and appropriate to proceed • communication protocols with particular reference to organisation confined space requirements.
Ready for entry	<p>Checking the confined space is ready for entry includes checking:</p> <ul style="list-style-type: none"> • isolations are complete and appropriate • isolation provide positive isolation • atmosphere is safe (or if necessary relevant measure are in place to ensure safe entry into an unsafe atmosphere) • safe entry and exit methods are in place • other items to ensure compliance with procedures, permits, relevant legislation and AS2865. <p>Appropriate steps to be taken if the confined space is not ready for entry may include reporting deficiencies and refusing to enter the space.</p>
Conditions of the permit	<p>Conditions of the permit include all hazard controls.</p> <p>Permit conditions may require atmospheric testing/monitoring in which case MSAPMOHS217A Gas test atmospheres will also be required.</p>
Secure work site	<p>Secure work site includes selecting and erecting/deploying required:</p> <ul style="list-style-type: none"> • protective equipment, • apparatus • signs • barriers • etc <p>as defined in the confined space entry permit requirements, AS2865 and other relevant requirements.</p>
Designated PPE	<p>Designated PPE (personal protective clothing and equipment) may include:</p> <ul style="list-style-type: none"> • eye protection (e.g. goggles) • ear protection • gloves • clothing

RANGE STATEMENT	
	<ul style="list-style-type: none"> • respiratory protection • helmets • safety footwear • lifelines and harnesses • personal monitors and alarms • other relevant PPE <p>as defined in the confined space entry procedures and permit requirements</p>
Required instruments and monitors	<p>Required instruments and monitors include:</p> <ul style="list-style-type: none"> • instruments used for pre entry testing appropriate to the hazards • continuous monitors appropriate for the hazards • other devices used to test the confined space atmosphere: <p>as required by the permit conditions</p>
Re-authorisation/reissue of permits	<p>Re-authorisation/reissue of permits may be required when:</p> <ul style="list-style-type: none"> • there is any change to work undertaken • the work situation changes • there is a gap in work continuity • the permit requires it • other site rules require it • other reasons
Confined space permit	<p>The confined space permit should meet the requirements of AS2865 - 2009 or other appropriate standard</p>
Working documentation	<p>Working documentation includes:</p> <ul style="list-style-type: none"> • entry/exit/re-entry logs • other documentation required by AS2865 (eg s2.9) • other documentation required by the permit(s) • other documentation required by the site etc.
Appropriate action if there is a change in risk	<p>Appropriate action if there is a change in risk includes any or all of:</p> <ul style="list-style-type: none"> • seeking revalidation of the permit • evacuating the confined space • instigating/undertaking testing • raising the alarm • initiating the emergency/incident response plan • other relevant action.
Final documentation	<p>Final documentation includes:</p>

RANGE STATEMENT	
	<ul style="list-style-type: none"> • signing off of permit • documentation related to equipment used • other required records.
Reporting of issues	<p>Reporting of issues includes:</p> <ul style="list-style-type: none"> • feedback re the work and methods of improving the work process • signs and symptoms of operational stress, • equipment malfunctions • wear and tear of equipment, tools etc • condition of safety/rescue equipment • observations of the condition of the confined space <p>within the level of competence of the person making the report.</p>
Hazards	<p>Typical may hazards include:</p> <ul style="list-style-type: none"> • heat, smoke, dust or other atmospheric hazards • sharp edges, protrusions or obstructions • limited head spaces or overhangs • equipment or product mass • slippery surfaces, spills or leaks • noise, rotational equipment or vibration • high/low oxygen content • hazardous atmospheres (eg combustible, toxic) • entrapment • engulfment • heat stress • claustrophobia • external hazards that may impact on the safety of those working in the confined space (eg exhaust fume, or other hazardous vapours, being drawn into the confined space by ventilation fans) • other hazards eg as identified in AS2865.
Variables	<p>Key variables to be monitored include:</p> <ul style="list-style-type: none"> • sites under which permit activities must be applied • type of permit(s) to be executed • types of tools and equipment to be employed • size of work team • scope and urgency of work • persons in the confined space/rotation of people in confined space • environmental conditions (eg weather).
Health, safety and	<p>All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed</p>

RANGE STATEMENT

environment (HSE)	through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.
--------------------------	---

Unit Sector(s)

Unit Sector	
--------------------	--

Competency field

Competency Field	
-------------------------	--

Co-requisite units

Co-requisite Units		

MSAPMPER300C Issue work permits

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor	<p>This competency unit addresses the need for personnel who issue work permits to understand the permit system, know the limitations of each permit and make decisions regarding the need for and correct use of each permit. This competency unit includes the issue of any and all permits. It applies to the issuing of permits covering a single plant or plant area such as might be an operators scope of responsibility.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This competency applies to personnel who are required to issues appropriate permits to work to persons conducting a variety of activities in workplace environments in which hazards exist or specific procedures need to followed and monitored to protect the safety of personnel and the integrity of plant or process. It includes:</p> <ul style="list-style-type: none"> • reviewing the conditions under which the work will be undertaken • examining the site to determining the hazards and safety requirements applicable to the site • ensuring the appropriate permit(s) is (are) selected depending on the organisations procedures • determining the appropriate conditions for the permit(s) • raising, authorising and issuing the necessary permit(s) • monitoring compliance with the permit conditions • reporting any indiscretions or violations of permit conditions and where necessary revoking permits • managing the permit process especially in shift hand overs or extensions to work activities • withdrawing and signing off work permits on completion of the work and verification that the requirements of the permit have been complied with.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Pre-requisite Units	<i>RIIRIS201A</i>	<i>Conduct local risk control</i>

Employability Skills Information

Employability Skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify need for work permit	1.1. Understand work permit system. 1.2. Identify and confirm with appropriate personnel the need for work permit. 1.3. Identify the correct permit for each situation.
2. Prepare work site for authorised work	2.1. Undertake an inspection of the work site. 2.2. Identify OHS and environmental requirements. 2.3. Conduct hazard identification and risk assessment. 2.4. Ensure work site is prepared in accordance specified work permit conditions. 2.5. Check permit conditions and report to appropriate personnel. 2.6. Identify need for and carry out testing in accordance with standard operating procedures.
3. Raise and issue work permits	3.1. Ensure conditions are documented on permit. 3.2. Ensure appropriate testing carried out and results documented on permit. 3.3. Determine an appropriate validity period 3.4. Check that permit conditions are met (ie validate permit). 3.5. Complete and authorise permit. 3.6. Ensure recipient(s) is advised of and agrees to abide by the requirements of the permit(s). 3.7. Ensure recipient(s) signs permit(s).
4. Monitor work for compliance	4.1. Undertake regular site inspections. 4.2. Monitor conditions and work progress and respond appropriately to changing conditions and circumstances. 4.3. Ensure permit currency and revalidate as required. 4.4. Ensure permit is displayed in prominent position. 4.5. Identify and, act on incidences of non-compliance and report promptly to relevant personnel. 4.6. Report any issues which arise with regard to work under the permit in accordance with procedures.
5. Receive end of day report	5.1. Receive end of day report from permit recipients 5.2. Confirm job progress and status. 5.3. Revalidate/arrange for revalidation of permit as required 5.4. Confirm work area has been left safe 5.5. Handover ongoing permits and status of suspended permits to oncoming shift.

ELEMENT	PERFORMANCE CRITERIA
6. Close work permit	6.1. Inspect job status. 6.2. Check that work undertaken satisfies permit conditions. 6.3. Ensure that work site is ready for a safe return to working conditions. 6.4. Check required returns to work status have been completed. 6.5. Sign off documentation and close permit in accordance with standard operating procedures. 6.6. Communicate work site and process status to relevant personnel.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

Competence includes the ability to select, apply and/or explain:

- appropriate PPE
- Australian Standard AS2865 -Confined Space
- Australian Standard AS1674.1 Safety in welding and allied processes (covers all hotn work)
- types of permits and what they cover
- hazards associated with each type of permit
- permit control system
- hazards of the area for which permit is being issued
- hazards that may be created by the interactions of the permit, the process and the plant area
- identification of container and goods coding and HAZCHEM markings
- production workflow sequences
- focus of operation of work systems and equipment
- application of relevant agreements, codes of practice and other legislative requirements
- methods of hazard analysis
- hazards of the materials and process and appropriate hazard control procedures, including hierarchy of control
- identification and correct use of equipment, processes and procedures
- selecting appropriate tests and knowing what the tests are for
- conducting and interpreting tests for contaminant gases and other hazards
- testing - types of testing may include:
 - atmospheric, including explosivity, O₂
 - flammability
 - toxicity
 - temperature
 - humidity
 - combustibles' oxygen, enriched or reduced
- estimating ventilation required for making vessels safe (eg for confined space entry, hot work)y including applying the formula for factors such as:
 - space turnover rate,
 - number of turnovers
- challenging/checking performance of monitoring and testing equipment against a standard sample
- supervision/monitoring of contractors.

REQUIRED SKILLS AND KNOWLEDGE

Some sources of underpinning OHS knowledge include appropriate OHS and Dangerous Goods legislation, Australian Standards and Safework Australia, State or Territory codes such as:

- NOHSC:1010 - National Standard for Plant
- AS4024.1 Safeguarding of machinery - general principles
- NOHSC: 1003 National exposure standards for atmospheric contaminants in the occupational environment.

The regulatory framework to include:

- OHS
- EPA
- OHS authorities and Safework Australia
- licence and certification requirements
- company policy and permit control systems
- other relevant standards.

This unit requires the ability to:

- read and correctly interpret complex P&IDs
- speak clearly and unambiguously in English
- explain, describe and verify sometimes complex needs and issues.

Required knowledge:

Knowledge and understanding of the materials, equipment and process sufficient to recognise situations requiring different types of work permits and then implement the appropriate action.

Knowledge of the organisation's standard procedures and work instructions and relevant regulatory requirements under which permit systems operate, along with the ability to implement them within appropriate time constraints and in a manner relevant to the job.

Knowledge of the relevant requirements under AS2865.

Writing is required to the level of completing workplace forms and producing reports.

Numeracy is required to the level of being able to correctly differentiate between high and low pressures and temperatures, voltages or masses.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment of this unit should demonstrate competence on actual plant and equipment in a work environment.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competence must be demonstrated in the ability to distinguish between situations requiring the major types of permits and to list the major requirements of each type of permit.

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- correctly identify situations requiring work permits
- identify and apply legislative requirements, relevant standards and codes of practice (which may be incorporated in the organisation's procedures) to the issuing of work permits
- list the requirements of each type of permit
- plan own work process within workplace procedures and explain the reasons for the steps in the process.

Consistent performance should be demonstrated. For example, look to see that:

- correct permit issued
- hazards are identified and controlled in the permit by applying the hierarchy of control
- required personal protective equipment (PPE) is specified
- problems are anticipated
- problems are efficiently resolved.

These aspects may be best assessed using a range of scenarios/case studies/what ifs as the stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new or unusual situations which may have been generated from the past incident history of the plant, incidents on similar plants around

EVIDENCE GUIDE**Context of and specific resources for assessment**

the world, hazard analysis activities and similar sources.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge. A holistic approach should be taken to the assessment.

Competence in this unit may be assessed:

- by use of a suitable simulation and/or a range of case studies/scenarios. Simulations should be based on the actual plant and will include walk throughs of the relevant competency components
- through questioning and the use of "what if" scenarios both on the plant and off the plant.
- by a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

This section should be read in conjunction with the Range Statement for this unit of competency.

Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Method of assessment

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

EVIDENCE GUIDE	
-----------------------	--

Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed and the safety standard required.
--	--

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.</p>	
Codes of practice/ standards	<p>Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version/version specified by the local regulatory authority must be used.</p>
Context	<p>This competency covers the issue of any and all work permits. Permits are called clearances by some organisations. The types of permit include:</p> <ul style="list-style-type: none"> • cold work • excavation • vehicle entry • minor repairs • working at heights • hot work • confined space • electrical • increased hazard • other relevant permits. <p>Requirements identified on the permit may include testing of atmospheric conditions, ventilation and control measures such as isolation, barriers, tag out/lockout signs, communications, incident response.</p> <p>A 'competent person' is a person who has, through a combination of training, education or experience, acquired knowledge and skills enabling that person to correctly perform a specified task.</p> <p>Safety structures and controls may include automatic plant shut down buttons, cords/lanyards, alarms, barriers, guards, earth leakage devices, tag out/lock out procedures, warning lights.</p>
The work permit system	<p>The work permit system includes:</p> <ul style="list-style-type: none"> • types of permits • legislative/regulatory/standards framework • roles and responsibilities of parties under the permit system • equipment which can and cannot be used for types of permit • alternative ways of conducting a job
Confined space	<p>The Australian standard (AS2865-2009) definition given for confined</p>

RANGE STATEMENT	
	<p>space is used in this Training Package, i.e.:</p> <p>'An enclosed or partially enclosed space that is not intended or designed primarily for human occupancy, within which there is a risk of one or more of the following:</p> <p>(a) An oxygen concentration outside the safe oxygen range.</p> <p>(b) A concentration of airborne contaminant that may cause impairment, loss of consciousness or asphyxiation.</p> <p>(c) A concentration of flammable airborne contaminant that may cause injury from fire or explosion.</p> <p>(d) Engulfment in a stored free-flowing solid or a rising level of liquid that may cause suffocation or drowning.'</p>
Procedures	<p>All operations are performed in accordance with procedures.</p> <p>Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards. These may include:</p> <ul style="list-style-type: none"> • OHS • EPA • OHS authorities and AASCC • Australian Standards • licence requirements • company policy and permit control systems • other relevant standards.
Preparation	<p>Preparation of work site includes:</p> <ul style="list-style-type: none"> • mechanical, electrical and other energy sources, and process isolations • de-energising all sources of energy/pressure • purging of lines • lock out/tag out procedures • blinding/blanking lines.
Tools and equipment	<p>This competency includes use of equipment and tools such as:</p> <ul style="list-style-type: none"> • writing instruments • computers and printers • calculators • testing equipment.
Hazards	<p>Typical hazards include:</p> <ul style="list-style-type: none"> • unsafe conditions developing through failure to conform with the provisions of the permit • injuries to personnel

RANGE STATEMENT	
	<ul style="list-style-type: none"> • equipment failures • releases of toxic or noxious substances.
Returns to work status	<p>Returns to work status may include:</p> <ul style="list-style-type: none"> • de-isolation • removal of lockouts/tag outs • removal of drain covers • etc.
Problems	<p>Anticipate and solve problems means resolve a wide range of routine and non-routine problems, using product and process knowledge to develop solutions to problems which do not have a known solution/ a solution recorded in the procedures.</p> <p>Typical process and product problems may include:</p> <ul style="list-style-type: none"> • selection of the wrong permit • incorrect information being supplied with the permit • errors being made in the completion of permit data • failure to correctly correspond to the requirements of the permit • failure to seek clarification when anomalies occur.
Variables	<p>Key variables to be monitored include:</p> <ul style="list-style-type: none"> • types of permits being issued • permit issuing procedures • permit protocols for extended work activities beyond the end of shift • permit hand-over procedures.
Health, safety and environment (HSE)	<p>All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.</p>

Unit Sector(s)

Unit Sector

Competency field

Competency Field	
------------------	--

Co-requisite units

Co-requisite Units		

MSAPMPER400A Coordinate permit process

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor	This competency covers the issuing and auditing of any and all permits across multiple plant areas or an entire site. It is typically undertaken by a senior process technician. This may be a routine job, a role in part of a job or a temporary role in a shut down or similar.
------------------------	--

Application of the Unit

Application of the unit	<p>This competency covers both the issuing of permits directly and also the coordination of permits issued by others. It focuses on potential conflicts between work being undertaken as well as checking that the permit system is being used correctly. It includes:</p> <ul style="list-style-type: none"> • coordinating permits and the permit system • plant preparations and isolations and the preparation system • live auditing of permit issuers, permit recipients/holders • auditing of permit paper trails • overseeing and checking test regimes • quality checking of risk assessment • coordinating the issue of additional hazard control resources
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Pre-requisite Units	<i>MSAPMPER300C</i>	<i>Issue work permits</i>
----------------------------	---------------------	---------------------------

Employability Skills Information

Employability Skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assess planned work for conflicts.	1.1. Identify all planned work for a time period 1.2. Determine the scope and HSE impacts of each planned job 1.3. Confirm hazard analysis and controls for each planned job 1.4. Compare hazard profiles for each planned job 1.5. Identify conflicts between planned jobs 1.6. Negotiate a solution between conflicts 1.7. Communicate results of negotiations to relevant stakeholders.
2. Issue required permits.	2.1. List those jobs which will be allowed to proceed in the time period 2.2. Confirm hazard controls required for these jobs 2.3. Identify jobs which have impacts across plant areas 2.4. Ensure controls and communications are adequate 2.5. Issue/cause to be issued required permits 2.6. Report as required by procedures.
3. Audit live permits.	3.1. Audit plant preparations 3.2. Audit permit issuing process 3.3. Check appropriate controls have been specified 3.4. Audit handover/sign on process 3.5. Audit work in progress for conformance to permit conditions 3.6. Audit work completion and hand back/closing process 3.7. Audit deisolation and return to work preparations 3.8. Take immediate and appropriate action on any problems found 3.9. Report on audit as required by procedures.
4. Audit past permits.	4.1. Obtain relevant paper work 4.2. Check for conformance to procedures 4.3. Check for appropriateness of specified hazard controls 4.4. Identify any non-conformance 4.5. Identify systemic non-conformances 4.6. Take any immediate action which is appropriate 4.7. Report on audit as required by procedures.
5. Analyse audit findings.	5.1. Identify improvements to the permit system 5.2. Identify improvements to the implementation of the

ELEMENT	PERFORMANCE CRITERIA
	permit system 5.3. Suggest improvements to the permit system as appropriate 5.4. Suggests improvements to hazard analysis processes 5.5. Suggest improvements to the plant preparation/return to operations processes 5.6. Suggest improvements to hazard controls 5.7. Suggest training required as appropriate

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This describes the essential skills and knowledge and their level, required for this unit.
Required skills:
This competency includes the following skills: <ul style="list-style-type: none"> • analysis • decision making • communication • prioritisation • leadership • negotiation • problem solving
Required knowledge:
Competence in this unit includes the following knowledge: <ul style="list-style-type: none"> • the operations of the plant and each major unit in it • hazards associated with all plant materials, processes and process conditions • hazard analysis and control • HSE legislative requirements related to plant • plant preparation procedures • auditing principles

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment of this unit should demonstrate competence on actual plant and equipment in a work environment. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.

Simulation may be required to allow for assessment of parts of this unit. Simulation should be based on the actual plant and will include walk throughs of the relevant competency components. Simulations may also include the use of case studies/scenarios and role plays.

This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of what if scenarios both on the plant (during demonstration of normal operations and walk throughs of abnormal operations) and off the plant.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competence must be demonstrated in the ability to specify the requirements and then select the best solution to meet the necessary and desirable requirements.

Context of and specific resources for assessment

Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios/case studies/what ifs will be required as will a bank of questions which will be used to probe the reasoning behind the observable actions.

Method of assessment

In all plants it may be appropriate to assess this unit concurrently with other relevant units.

Guidance information for

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy,

EVIDENCE GUIDE	
-----------------------	--

assessment	language and literacy capacity of the assessee and the work being performed.
-------------------	--

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Codes of practice/ standards

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency covers the issue of any and all work permits. Permits are called clearances by some organisations. The types of permit include:

- cold work
- excavation
- vehicle entry
- minor repairs
- working at heights
- hot work
- confined space
- electrical
- increased hazard
- other relevant permits.

Requirements identified on the permit may include testing of atmospheric conditions, ventilation and control measures such as isolation, barriers, tag out/lockout signs, communications, incident response.

A 'competent person' is a person who has, through a combination of training, education or experience, acquired knowledge and skills enabling that person to correctly perform a specified task.

Safety structures and controls may include automatic plant shut down buttons, cords/lanyards, alarms, barriers, guards, earth leakage devices, tag out/lock out procedures, warning lights.

Live permits

Live permits applies to work currently being done

Past permits

Past permits applies to any permit which has been handed back/closed.

Audit permits

Auditing of permits includes all of:

- selecting an individual permit and following it through
- spot checking any aspect of permits
- intensively checking one aspect of the process with all permits on issue

RANGE STATEMENT**Health, safety
and
environment
(HSE)**

All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Unit Sector(s)

Unit Sector

Competency field

Competency Field

Co-requisite units

Co-requisite Units

MSAPMSUP303A Identify equipment faults

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit requires the application of planning, technical knowledge and skills to check and isolate routine and non-routine equipment faults used in production and report on the status of equipment. It applies to all sectors of the industry.

This competency is typically performed by operators demonstrating some relevant theoretical knowledge and using a range of well developed skills requiring some discretion and judgement

Application of the Unit

Application of this unit

This competency applies to operators who are required to apply knowledge of materials, product purpose and processes to the identification and isolation of faults in equipment. The key factors are the planning, checking and identification of routine and non-routine faults, in order to return the equipment to production.

The operator will:

- identify and plan scope of equipment checks
- check settings, adjustments and performance of equipment
- check materials for conformity to job requirements
- identify and isolate faults in equipment
- propose solutions and carry out solutions within scope of authority
- complete logs and reports.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Identify scope of operational check.	1.1 Identify and classify equipment components and operating systems. 1.2 Match appropriate tests and procedures to the equipment operating systems. 1.3 Identify special test procedures and parameters in manufacturer's specifications and procedures. 1.4 Explain the operating principles of hydraulic, pneumatic, mechanical and electrical/electronic systems as related to workplace equipment. 1.5 Implement measures to control identified hazards in line with procedures and duty of care. 1.6 Observe and undertake checks on the physical condition of equipment as per procedures. 1.7 Record preliminary observations. 1.8 Discuss test procedures with appropriate personnel and obtain necessary permission where required.
2. Plan operational checks.	2.1 Check specifications and notes from preliminary observations and identify areas to be clarified. 2.2 Plan testing sequence/s noting areas where results and observations should be recorded. 2.3 Identify safe area for testing. 2.4 Make arrangements for any additional resources (including other employees).
3. Check unit through full operational range.	3.1 Undertake testing, observing relevant safety and operational requirements. 3.2 Confirm results and findings.
4. Identify fault and/or formulate recommendations.	4.1 Identify impact of fault on work schedule. 4.2 Record proposals for equipment repair based on faults found, cost/time implications and workplace approval systems. 4.3 Explain report to relevant workplace personnel including any options and recommendations. 4.4 Undertake repairs where appropriate in accordance with procedures.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. Knowledge and understanding of equipment operation and maintenance practices sufficient to recognise fault and no-fault conditions in standard and non-standard situations and then determine appropriate action which is consistent with operational guidelines is required. Knowledge of organization procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards. Application of the knowledge of managing risks using the hierarchy of controls applied to the process. Application of approved hazard control, safety procedures, use of PPE in relation to handling materials, equipment operation and clean up.

Knowledge as a basis for solving processing and material problems, including:

- principles of the operation of the equipment to be maintained
- functions and troubleshooting of internal components and their problems
- routine and non-routine causes of equipment failures and the service conditions which may increase maintenance
- maintenance techniques, (eg reactive maintenance, predictive and preventative operational maintenance)
- appropriate testing procedures and use of equipment for a range of equipment faults
- operating principles for mechanical, hydraulic, pneumatic, electrical/electronic systems
- urgency and timeliness factors in planning maintenance activities in relation to production requirements
- collection, analysis and reporting of data.

Competence also includes the ability to:

- identify and select testing methods based on cost and time effectiveness
- conduct inspections, checks and tests on equipment as appropriate
- read and interpret circuit diagrams for mechanical, hydraulic, pneumatic and electrical/electronic operating systems
- use technical information and manufacturer information to locate relevant data
- interpret technical specifications and manufacturer instructions
- ensure workplace is safe for testing and maintenance of equipment
- identify hazards of the materials and process
- implement appropriate procedures for hazard control
- use PPE, safely handle products and materials, read relevant safety information
- apply safety precautions appropriate to the task.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical equipment specifications schematics and diagrams.

Writing is required to the level of completing workplace forms and production reports.

Basic numeracy is required, to the level of calculating equipment throughputs and performance.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- understand the procedures and know the importance of critical operational systems
- recognise potential situations requiring action and then implement appropriate action.

Consistent performance should be demonstrated. For example, look to see that:

- early warning signs of equipment in need of attention/with potential problems are recognised
- appropriate tests are undertaken and tests are analysed appropriately
- proposals for equipment repair are based upon the most appropriate and cost effective method to return equipment to full performance in a timely manner
- items initiated are followed through until final resolution has occurred.

Assessment method and context

It is preferred that assessment takes place on industrial equipment in a work environment. Competence in this unit may be assessed:

- on a processing plant, allowing for operation under all normal and a range of abnormal conditions
- in a situation allowing the generation of evidence of the ability to recognise, anticipate and solve problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to all work environments and sectors within the industry. It does not include maintenance that would require trade level skills. It is not intended that this competency would cover maintenance that is carried on in a workshop.

Procedures

All operations are performed in accordance with procedures.

Procedures mean all relevant workplace procedures, work instructions, temporary instructions, standard operating procedures, plant description manuals, manufacturer's instructions, specifications, service manuals, machine circuit diagrams for hydraulic/pneumatic and electrical/electronic circuits and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- hand tools specific for the task
- product testing equipment (eg flowmeter, scales, tape measure, micrometer, caliper, ultrasonic thickness)
- machinery measuring equipment (eg vibration meter, tachometer, current tester, thermal imaging, temperature gauge)
- measuring and aligning equipment.

Hazards

Typical hazards include:

- rotating and moving machinery
- process materials, solids, fluids and gases under pressure or flowing
- temporary connections or by-passes
- electrical, hydraulic or pneumatic energy sources
- out-of-specification operation.

Problems

Respond to/rectify 'non-routine problems' means 'apply known solutions to a variety of predictable problems'. Typical process and product problems may include:

- out-of-specification product or variations
- response of equipment to materials variations
- new or changed materials
- changed equipment settings (eg higher speed or throughput)
- equipment in need of maintenance
- procedures requiring update or modification.

Variables

Key variables to be monitored include:

- equipment performance (eg speed, output, variations)
- equipment component performance
- sequences and timing of operations
- materials changes (desired and not desired).

Data and Records

Typical information sources, observed data and plant records may include:

- plant data
- log sheets
- operational and performance reports
- physical aspects such as noise, smell, feel and pressure condition monitoring information
- planned maintenance schedules
- procedures.
-

Unit Sector(s)

Not applicable.

MSAPMSUP310A Contribute to the development of plant documentation

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit of competency covers the development of relevant plant documentation and systems in response to identified information requirements including the development and/or amendment of workplace documents, procedures and record keeping systems.

Application of the Unit

Application of this unit

This competency is typically performed by an experienced operator, leading hand or supervisor. The employee will:

- determine what needs to be done
- draft new/revised documentation
- arrange for documentation to be checked
- follow document control procedures.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Identify information need/deficiency.	1.1 Determine the information requirements of the organization. 1.2 Evaluate current documentation. 1.3 Recognise information need/deficiency. 1.4 Discuss information requirements with appropriate personnel.
2. Develop/revise plant documentation.	2.1 Specify information need and set/prioritise objectives 2.2 Analyse existing documentation/records in accordance with specified requirements. 2.3 Develop/amend documentation as a draft in accordance with specifications to standard format. 2.4 Issue documentation to appropriate personnel for review. 2.5 Edit documentation and amend in accordance with review requirements. 2.6 Complete documentation to satisfy the initial identified need/deficiency.
3. Communicate changes to plant documentation.	3.1 Explain and communicate documentation to all relevant personnel. 3.2 Distribute documentation to all appropriate personnel. 3.3 Evaluate implementation of documentation. 3.4 Amend documents if required.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. Knowledge of organisation standard procedures, work instructions and relevant regulatory requirements along with the ability to implement them within appropriate time constraints relevant to the job.

Knowledge of organisation information systems, procedures, equipment and relevant documentation sufficient to be able to develop or amend company documentation.

Knowledge of the relevant OHS and environmental requirements is required along with an ability to implement them in a manner which is relevant to the drafting of all relevant documentation.

Competence also includes the ability to:

- plan own work, including predicting consequences and identifying improvements
- identify and describe own role and role of other employees.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets, work instructions and material labels as provided to operators.

Writing is required to the level of drafting documents for the required audience.

Numeracy is also required to the extent required by production data, work instructions and procedures.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Consistent performance should be demonstrated. For example, look to see that:

- information required is researched, and intended use is taken into account
- documentation is completed accurately, concisely and in accordance with requirements
- completed documentation is easily understood by the recipient
- information is communicated in the appropriate manner
- communication distinguishes between relevant and peripheral issues.

Assessment method and context

Assessment will occur using work-based documents and in a work-like environment.

Competence in this unit may be assessed:

- by direct observation and accessing the workplace records system

- in a situation allowing the generation of evidence of the ability to recognise, anticipate and solve problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to all work environments in the industry.

Work is governed by established workplace procedures, and extent of authority for drafting/document approval.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Documentation

This unit of competency includes sources of documentation such as:

- maintenance logs
- non-compliance reports
- incidence and accident reports
- permits
- schematics/process flows/ engineering drawings.
- job cards

- standard operating procedures
- work instructions
- operating manuals
- quality procedures
- training program contents
- materials safety data sheets.

Problems

'Anticipate and solve problems' means resolve a wide range of routine and non-routine problems, using product and process knowledge to develop solutions to problems which do not have a known solution/s recorded in the procedures.

Typical problems may include:

- inaccurate source documents
- out-of-date source documents
- source documents too technical/lacking detail/of wrong focus
- prioritising of document drafting with other work.

Appropriate action for problems outside of area of responsibility may be reported to an appropriate person.

Appropriate action for solving problems within area of responsibility includes asking questions and seeking assistance from appropriate persons/sources

Unit Sector(s)

Not applicable.

MSAPMSUP330A Develop and adjust a production schedule

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit refers to the scheduling of production to meet operational requirements. It aims at ensuring that operators identify resource requirements, and document, monitor and adjust schedules in response to operational variations.

Application of the Unit

Application of this unit

This competency applies to operators who are required to optimise plant production and costs of production, using daily and weekly run plan guidelines/production schedules. Typically, work would include authorising, planning, scheduling and prioritising of day to day activities.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
<p>Elements describe the essential outcomes of a unit of competency</p>	<p>Performance Criteria describe the required performance needed to demonstrate achievement of the Element.</p> <p>Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the Range Statement.</p> <p>Assessment of performance is to be consistent with the Evidence Guide.</p>

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.
1. Identify resources to meet production requirements.	1.1 Determine demand for product. 1.2 Access and verify information on orders, stocks and delivery. 1.3 Determine material requirements. 1.4 Determine human resource requirements. 1.5 Determine health, safety or environment issues in meeting requirements.
2. Develop schedules	2.1 Determine production priorities. 2.2 Identify production opportunities ('windows'). 2.3 Develop production schedules in accordance with procedures taking account of safety requirements. 2.4 Communicate and distribute production schedules to appropriate personnel.
3. Monitor production schedules.	3.1 Monitor production output against schedule. 3.2 Identify variations between production and schedule. 3.3 Record operational variation and discuss with appropriate personnel. 3.4 Identify possible cause of variation.
4. Adjust schedules.	4.1 Adjust schedules in response to operational variation. 4.2 Adjust schedules in response to unexpected events. 4.3 Distribute adjusted/amended schedules to appropriate personnel. 4.4 Maintain product output in accordance with production and health, safety and environment requirements.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit. Competence includes the ability to apply and explain:

- production objectives, priorities, targets and resource requirements
- customer and quality requirements
- process and plant operational requirements
- hazards associated with the process
- awareness of the hierarchy of control in controlling the hazards
- impact of adjustments on process/plant efficiencies and production outcomes/targets
- safety implications for schedule/schedule changes
- planning, sequencing, monitoring and reviewing steps
- company policies and procedures

as is relevant to scheduling of production to meet operational requirements.

Language, literacy and numeracy requirements

This unit requires the ability to access and interpret a range of written, numeric and graphical data.

Writing is required to the level of interpreting orders (and forecasts) and producing schedules and related reports.

Numeracy is required to interpret numeric data and relevant statistics (such as trends and cycles) and from this calculate production and resource requirements.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

This unit may be best assessed using a range of scenarios/case studies and 'what ifs' as the stimulus with a walk-through of the scheduling process forming part of the response. These assessment activities should cover a range of problems, including new, unusual and improbable situations which may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities and similar sources.

Critical aspects

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to

- identify resource requirements
- record, monitor and adjust schedules in response to operational requirements.

Consistent performance should be demonstrated. For example, look to see that:

- resource requirements are correctly identified in accordance with production requirements
- schedules are planned for the most effective and efficient manner to meet operational requirements
- schedules allow for safety, health and environmental (HSE) issues and reinforce HSE priorities
- timelines are adhered to
- schedules are adjusted and resource requirements amended in response to operational variations
- variations to schedules are communicated and documented appropriately.

Context of assessment

This unit of competency will be assessed:

- on a processing plant
- in as holistic a manner as is practical
- over a range of situations which will include disruptions to normal, smooth operation
- through questioning and the use of 'what if' scenarios both on the plant (during demonstration of normal operations and walk throughs of abnormal operations) and off the plant
- by using a combination of these techniques.

Assessment for this unit of competency may:

- be integrated with the assessment of other relevant units of competency
- require simulation to allow for timely assessment of parts of the unit, eg Elements 1 and 4. Simulation should be based on the actual plant and will include walk throughs of the relevant competency components. Simulations may also include the use of case studies/scenarios and role plays.

Method of assessment

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency is typically performed by an experienced operator, team leader or similar. Indicative functions include:

- regular planning operations
- communication with all relevant personnel, including management and administration.

Unit content areas include responses to:

- immediate production needs
- future production needs
- reworking requirements.

Indicative information sources and resources include:

- customer requirements
- organisational plans, policies and procedures
- production schedules, run plans
- resource utilisation actuals and targets.

All operations are performed in accordance with standard operating procedures.

Procedures

All operations are performed in accordance with procedures.

Procedures means all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Health, Safety and Environment (HSE)

All operations are subject to stringent health, safety and environment requirements, which may be imposed through State or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the scheduler needs to ensure the HSE requirements take precedence.

Unit Sector(s)

Not applicable.

MSAPMSUP390A Use structured problem solving tools

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the solving of process and other problems, beyond those associated directly with the process unit/equipment, using structured process improvement tools to identify improvements and/or solve problems.

Application of the Unit

Application of this unit

The competency is typically performed by an experienced operator, team leader or supervisor. Generally the person would be part of a team during the solving of complex or systemic problems and would be expected to perform all parts of this unit and at all times would be liaising and cooperating with other members of the team. This includes:

- using a range of formal problem solving techniques
- identifying and clarifying the nature of the problem
- devising the best solution
- evaluating the solution
- developing an implementation plan to rectify the problem.

This unit does not cover the solving of problems undertaken as part of the operator's normal role which is covered in the relevant operation competency unit.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA
1. Identify the problem.	<p>Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.</p> <p>1.1 Identify variances from normal operating parameters and product quality.</p> <p>1.2 Define the extent, cause and nature of the problem by observation and investigation.</p> <p>1.3 State and specify the problem clearly.</p>
2. Determine fundamental cause of problem.	<p>2.1 Identify possible causes based on experience and the use of problem solving tools/analytical techniques.</p> <p>2.2 Develop possible cause statements.</p> <p>2.3 Identify fundamental cause.</p>
3. Determine corrective action.	<p>3.1 Consider all possible options for resolution of the problem.</p> <p>3.2 Consider strengths and weaknesses of possible options.</p> <p>3.3 Determine corrective action to remove the problem and possible future causes.</p> <p>3.4 Develop implementation plans identifying measurable objectives, resource needs and timelines in accordance with safety and operating procedures.</p> <p>3.5 Develop recommendations for ongoing monitoring and testing.</p>
4. Communicate recommendations.	<p>4.1 Prepare report on recommendations.</p> <p>4.2 Present recommendations to appropriate personnel.</p> <p>4.3 Follow up recommendations if required.</p>

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Competence includes a thorough knowledge and understanding of the process, normal operating parameters, and product quality to recognise non-standard situations.

This unit of competency includes use of analytical techniques in problem solving such as:

- brainstorming
- fishbone diagrams/cause and effect diagrams
- process logic/process requirements
- logic tree
- similarity/difference analysis
- Pareto analysis
- force field/SWOT analysis
- flow charts
- control charts, runcharts and graphs
- scattergrams.

Action plans to solve problems are prepared including:

- priority requirements
- measurable objectives
- resource requirements
- methods for reaching objectives
- timelines
- coordination and feedback requirements
- safety requirements
- risk assessment
- environmental requirements.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets and material labels as provided to operators.

Writing is required to the level of report writing and completing workplace forms.

Basic numeracy is also required, eg to interpret quality data and graphs.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to apply and explain:

- relevant equipment and operational processes
- enterprise policies and procedures
- enterprise goals, targets and measures
- enterprise quality, OHS and environmental requirements
- principles of decision-making strategies and techniques
- enterprise information systems and data collation
- industry codes and standards.

Consistent performance should be demonstrated. For example, look to see that:

- problems are recognised and clarified
- possible causes are identified, based on experience and use of analytical techniques in solving the problem, including:
 - identifying variations
 - identifying cause and effect
 - separating single problems from multiple problems
 - recognising recurring problems.
- fundamental cause of process or equipment faults is determined
- corrective/preventative implementation plans are developed to avoid recurrence of the problem
- implementation plan is presented to relevant personnel.

Assessment method and context

Assessment will occur on the job or in a simulated workplace.

Competence in this unit may be assessed:

- in a situation allowing the generation of evidence of the ability to recognise and respond to problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

The competency unit applies to a wide range of processes and equipment. The process manufacturing technical units of competency include a problem solving element where problems specific to that competency unit are to be resolved. This competency unit is where structured problem solving techniques are to be applied more broadly, or with greater depth/rigour than is implied by the problem solving element of the technical units. In large plants or manufacturing organisations with multiple processes, it may apply to more than one process if those processes interact with each other. It applies to all operators across all functions.

Procedures

All operations are performed in accordance with procedures. Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Hazards

Typical hazards include leaks, spillages and equipment hazards that can occur during the walk-through of a plant.

Problems

'Anticipate and solve problems' means resolve a wide range of routine and non-routine problems, using product and process knowledge to develop solutions to problems which do not have a known solution/a solution recorded in the procedures.

Typical process and product problems may include:

- non- routine process and quality problems
- equipment selection, availability and failure
- teamwork and work allocation problems
- safety and emergency situations and incidents.
-

Unit Sector(s)

Not applicable.

MSL912001A Work within a laboratory/field workplace (induction)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the induction of an employee into scientific/technical work within an enterprise.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to samplers/testers, production operators and field assistants working in all industry sectors.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Work within enterprise structure and culture	1.1. Demonstrate broad knowledge of enterprise business ethics, goals, products and/or scientific/technical services 1.2. Identify key enterprise sites and functions and their contribution to product range and quality
2. Work in accordance with workplace agreements and/or legislative requirements	2.1. Locate key workplace information and apply it correctly 2.2. Follow enterprise policy and procedures relating to employment, security, confidentiality and reporting lines 2.3. Perform all work activities in accordance with relevant environmental management procedures, including sustainable energy principles and work practices
3. Provide scientific/technical support	3.1. Identify workplace roles and responsibilities of scientific/technical personnel 3.2. Identify typical tasks and calendar of events in work area 3.3. Recognise and locate the equipment and resources required for everyday work 3.4. Interpret work instructions correctly and seek clarification if necessary 3.5. Follow work instructions to perform scientific/technical tasks safely and efficiently 3.6. Maintain own work area, equipment and materials in a safe and organised manner according to enterprise policy and procedures
4. Organise daily work efficiently	4.1. Assess and prioritise work load according to level of responsibility 4.2. Advise supervisor if additional resources or support are required to improve performance 4.3. Undertake duties in a positive manner to enhance workplace cooperation and efficiency
5. Accept responsibility for quality of own work	5.1. Monitor and adjust work practices to ensure that the quality of outputs is maintained 5.2. Identify and report opportunities for improvements in procedures, processes and equipment in work area
6. Identify own learning needs	6.1. Identify career options and training opportunities in the enterprise

ELEMENT	PERFORMANCE CRITERIA
	6.2. Consult appropriate personnel to identify own learning needs for future work requirements and career aspirations

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
<p>Required skills include:</p> <ul style="list-style-type: none"> • using personal protective clothing, equipment and containment facilities as required • following work instructions to complete tasks within the required timeframe • working ethically • working efficiently when alone and with others • maintaining required quality of work outputs • complying with legislative and enterprise requirements in everyday work
Required knowledge
<p>Required knowledge includes:</p> <ul style="list-style-type: none"> • enterprise objectives, product and service range • enterprise structure and reporting lines • role of quality assurance and/or scientific/technical services in the enterprise • own role, rights, responsibilities and key tasks • workplace procedures that govern personal work, health, safety and environment • basic ethical values and principles, such as respect for the law, responsibility, courtesy, diligence and confidentiality • use and names of equipment, materials and other resources relevant to work function • relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • follow workplace procedures to complete tasks within the required timeframe • efficiently organise own daily work • accept responsibility for quality of own work.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL922001A Record and present data</i> • <i>MSL952001A Collect routine site samples</i> • <i>MSL972001A Conduct routine site measurements.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • relevant documentation, such as enterprise SOPs, legal/regulatory requirements and codes of practice • organisational charts and flow diagrams showing links between enterprise functions and/or production processes • employment, training and career information.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of candidate performing a range of scientific/technical tasks • feedback from peers and supervisors • oral or written questioning to check underpinning knowledge • review of workplace documentation completed by the candidate. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to</p>

EVIDENCE GUIDE	
	<p>accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Environmental</p> <p>At the start of an induction program, the supervisor asks two new laboratory assistants to introduce themselves to all the staff individually and find out about three major tasks that each person regularly performs. In addition, they watch the company's induction video, complete the necessary paperwork and are assigned a locker and safety equipment. At the end of the day, they report back to the supervisor. On Day Two, the supervisor assigns them to an experienced technician and asks them to shadow him/her. At the end of the day the new assistants are asked to describe two tests they have observed and outline some of the major safety issues involved with each one. On Day Three, they begin bench work by helping to conduct routine tests, such as titrations of industrial waste water samples under guidance of a technician.</p> <p>Manufacturing</p> <p>A laboratory assistant was required to complete the company's induction program during their first week of employment. The assistant completed the following activities:</p> <ul style="list-style-type: none"> • met with all laboratory staff and discussed their roles and duties • prepared their own organisational flow chart for the laboratory and recorded the contact details and key function of each staff member • talked to the laboratory manager about the company's products and services and the laboratory's role in quality assurance

EVIDENCE GUIDE

- read through the induction booklet's summary of key company policies, procedures, emergency and risk management plans
- talked to the safety officer about OHS risks in the laboratory and the location of key safety equipment and information
- prepared a plan of the layout of the company site with location of key buildings and services
- shadowed several technicians to observe their daily routines
- prepared a weekly work plan in conjunction with the supervisor.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Codes of practice	Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used
Standards, codes, procedures and/or enterprise requirements	<p>Standards, codes, procedures and/or enterprise requirements may include:</p> <ul style="list-style-type: none"> • Australian and international standards, such as: <ul style="list-style-type: none"> • AS/NZS 2243 Set:2006 Safety in laboratories set • AS/NZS ISO 14000 Set:2005 Environmental management standards set • AS/NZS ISO 9000 Set:2008 Quality management systems set • Australian code of good manufacturing practice for medicinal products (GMP) • Australian Dangerous Goods Code • Human Rights and Equal Opportunity Commission Act 1986 • occupational health and safety (OHS) national standards and codes of practice • principles of good laboratory practice (GLP)
Business ethics	<p>Business ethics may include:</p> <ul style="list-style-type: none"> • following enterprise policy and procedures • behaving honestly and openly • respecting others and treating them with courtesy and impartiality • working diligently and responsibly • ensuring confidentiality of information, including client identification and test results
Enterprise sites	<p>Enterprise sites may include:</p> <ul style="list-style-type: none"> • laboratories • head office functions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • production or processing plants • supplier services and consultancy services
Key functions	<p>Key functions may include:</p> <ul style="list-style-type: none"> • production • packaging, warehouse and distribution • quality assurance • purchasing, sales and marketing • human resources (personnel, training and employee relations)
Sources of workplace information	<p>Sources of workplace information may include:</p> <ul style="list-style-type: none"> • notice boards, public address or paging systems • standard operating procedures (SOPs), manuals, work instructions, signs and notices • material safety data sheets (MSDS) • telephone or contract details, email systems and websites • emergency exits, routes and collection points • enterprise recording and reporting procedures, quality manuals, equipment and operating/technical manuals • test methods (validated and authorised) • schematics, workflows, laboratory layouts and production and laboratory schedules
Workplace agreements, policies and procedures	<p>Workplace agreements, policies and procedures may include:</p> <ul style="list-style-type: none"> • industrial awards, enterprise bargaining agreements and individual contracts • emergencies, accidents and incidents • incident and accident/injury reports • health, safety and environment • quality assurance • customer services
Legislative requirements	<p>Legislative requirements may involve:</p> <ul style="list-style-type: none"> • OHS • workers compensation • equal employment, anti-discrimination and anti-harassment • ethics, copyright, intellectual property and

RANGE STATEMENT	
	privacy <ul style="list-style-type: none"> environmental protection
Sustainable energy principles and work practices	Sustainable energy principles and work practices may include: <ul style="list-style-type: none"> examining work practices that involve excessive use of electricity, gas and/or water switching off equipment when not in use regularly cleaning filters recycling and reusing materials wherever feasible minimising waste
Scientific and technical support	Scientific and technical support may include: <ul style="list-style-type: none"> routine site sampling of raw materials and products packaging, labelling, storing and transporting samples visual inspection of products and packaging routine site measurements that take a short time and involve a narrow range of variables or easily recognised control limits cleaning of equipment housekeeping of work areas
Equipment and resources	Equipment and resources will vary according to: <ul style="list-style-type: none"> the scope and nature of the enterprise's products, and scientific/technical functions and services
Occupational health and safety (OHS) and environmental management requirements	OHS and environmental management requirements <ul style="list-style-type: none"> all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time all operations assume the potentially hazardous nature of samples and require standard precautions to be applied where relevant, users should access and apply current industry understanding of infection control issued by the National Health and

RANGE STATEMENT	
	Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Communication/organisation
--------------------	----------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL922001A Record and present data

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to record and store data, perform simple calculations of scientific quantities and present information in tables and graphs. The unit of competency requires personnel to solve predictable problems using clear information or known solutions. Where alternatives exist, they are limited or apparent.
------------------------	---

Application of the Unit

Application of the unit	This unit of competency is applicable to production operators, field assistants and laboratory assistants working in all industry sectors. Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Record and check data	1.1. Enter data into laboratory information system or record sheets as directed 1.2. Check data to identify transcription errors or atypical entries 1.3. Rectify errors in data using enterprise procedures
2. Calculate simple scientific quantities	2.1. Calculate simple scientific quantities using given formulae and data 2.2. Ensure calculated quantities are consistent with estimations and expectations 2.3. Report all calculated quantities with appropriate precision and units
3. Present data in tables, charts and graphs	3.1. Present data accurately in tables and charts using given formats and scales 3.2. Recognise and report obvious features and trends in data
4. Store and retrieve data	4.1. File and store data in accordance with enterprise procedures 4.2. Maintain enterprise confidentiality standards

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- performing simple calculations
- preparing and interpreting straightforward tables, graphs and charts
- applying calculations in the workplace
- coding, recording and checking data accurately
- presenting accurate results in the required format
- recognising obvious trends in data
- maintaining the confidentiality of data in accordance with workplace and regulatory requirements

Required knowledge

Required knowledge includes:

- concepts of metrology
- the international system of units (SI)
- relevant scientific and technical terminology
- procedures for coding, entering, storing, retrieving and communicating data
- procedures for verifying data and rectifying mistakes
- conversion of units involving multiples and submultiples
- significant figures, estimation, approximation, rounding off
- substitution of data in formulae
- calculations involving fractions, decimals, proportions and percentages
- procedures for maintaining and filing records, security of data

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • accurately code, check and record data in the required format • calculate simple scientific quantities • recognise obvious trends in data • maintain the confidentiality of data.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit may be assessed with technical units, such as:</p> <ul style="list-style-type: none"> • <i>MSL973001A Perform basic tests</i> • <i>MSL973002A Prepare working solutions</i> • <i>MSL973007A Perform microscopic examination.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • data sets and records • computer and relevant software or laboratory information system • relevant enterprise procedures.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of data worksheets, calculations, graphs and tables prepared by the candidate • review of records transcribed, maintained or stored by the candidate • feedback from supervisors and peers • observation of the candidate as they record data and perform calculations • questions to assess understanding of relevant procedures and trends in data. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made</p>

EVIDENCE GUIDE

	<p>to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Construction materials</p> <p>A laboratory assistant is given 20 soil samples and asked to test their moisture content by weighing each sample, placing them in an oven for 24 hours and then reweighing them. The assistant performs the tests in accordance with the standard method and then calculates the % water content by dividing the weight loss by the wet weight and multiplying by 100. He/she checks the results. After entering them into the laboratory information management system (LIMS), they notice that they are consistently less than the previous results recorded for soils at the same site. The assistant reports the discrepancy to the supervisor who checks whether the oven was operated at the required temperature. The supervisor then discovers that the assistant has calculated the moisture content by dividing the weight loss by the wet weight instead of the dry weight. The assistant recalculates the moisture content for the 20 samples and notes that the results are now consistent with previous results.</p> <p>Manufacturing</p> <p>On Friday, a laboratory assistant performs the routine set of temperature, pressure and humidity measurements at 10 sites in a refinery. They enter the data on a pre-prepared data sheet that also contains the data recorded for the previous days of that week. The assistant checks the data for any significant variations to that recorded previously. They notice that for site #5, the temperature reading is 250(C which is 100(C below the expected value. The assistant repeats the measurement</p>

EVIDENCE GUIDE

and gets the same result. After returning to the laboratory, the assistant enters the data into the LIMS and reports the odd result to their supervisor. The supervisor contacts the site manager and finds out that the pipeline at site #5 has been isolated as part of unscheduled maintenance in that part of the site.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards such as:
 - AS ISO 1000-1998 The international system of units (SI) and its application
- national measurement regulations and guidelines

Concepts of metrology

Concepts of metrology may include:

- that all measurements are estimates
- measurements belong to a population of measurements of the measured parameters
- repeatability
- precision
- accuracy
- significant figures
- sources of error
- uncertainty
- traceability

Data

Data may be recorded on:

- worksheets
- spreadsheets or databases linked to information management systems

Data may include results of:

- observations
- tests and measurements
- surveys

Data may be presented in the form of:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • graphs • tables • control charts • semi-quantitative observations expressed on a scale (for example, 1 to 4 or + to ++++)
Simple calculations	<p>Simple calculations may be performed with or without a calculator or computer software and may include scientific quantities such as:</p> <ul style="list-style-type: none"> • decimals, fractions, ratios, proportions and percentages • perimeters, areas, volumes and angles • concentration • unit conversion, multiples and submultiples • use of significant figures, rounding off, estimation and approximation • substitution of data in formulae • conversions between SI units • areas (m²) and volumes (mL, L, m³) of regular shapes (e.g. packaging and moulds) • average mass, mass %, density, specific gravity, moisture, relative and absolute humidity • ratios, such as mass to mass, mass to volume and volume to volume percentages • industry specific ratios, such as g/cm², kg/m² • concentration (for example, g/100mL, mg/L, mg/(L, dilution mL/L) • statistical values such as mean, median, mode and standard deviation • average count, colonies per swab surface and cell counts (live and dead/total) • process variables, such as pressure, velocity and flow rates • % content of moisture, ash, fat, protein, alcohol, sulphur dioxide and trace metals, such as calcium or zinc • food properties, such as % concentration (dry), friability, bitterness, brix, free amino nitrogen, diastatic power, calorific content and yeast viability
Obvious features and trends in	Obvious features and trends in data could include:

RANGE STATEMENT	
data	<ul style="list-style-type: none"> • maximum and minimum values • spread of data • increasing/decreasing data, rate of change • outliers, data beyond control limits or normal range
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Data
--------------------	------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

MSL933001A Maintain the laboratory/field workplace fit for purpose

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the general cleaning of work surfaces, cleaning and storage of equipment and the monitoring of laboratory stocks under direct supervision.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory assistants and instrument operators working in all industry sectors.</p> <p>This unit of competency forms a major part of the work of laboratory assistants. They work in accordance with work instructions and standard operating procedures which incorporate all relevant aspects of occupational health and safety (OHS) legislation and the codes, guidelines, regulations and Australian standards applying to environmental hazards and dangerous goods.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Clean work preparation areas	1.1. Clean preparation areas using appropriate cleaning agents and equipment according to enterprise procedures 1.2. Remove spillages, if they occur, using appropriate agents, personal protective equipment and enterprise procedures 1.3. Collect and segregate wastes in accordance with enterprise procedures, relevant codes and regulations
2. Clean and store equipment	2.1. Collect used equipment, inspect for faults and, where necessary, remove from service 2.2. Use appropriate agents, apparatus and techniques to clean equipment 2.3. Store clean equipment in the designated locations and manner
3. Monitor stocks of materials and equipment	3.1. Perform stock checks and maintain records of usage as directed 3.2. Store labelled stocks for safe and efficient retrieval 3.3. Inform appropriate personnel of impending stock shortages to maintain continuity of supply
4. Maintain a safe work environment	4.1. Use established safe work practices and personal protective equipment to ensure personal safety and that of other personnel 4.2. Report potential hazards and/or maintenance issues in own work area to designated personnel 4.3. Minimise the generation of wastes and environmental impacts 4.4. Dispose of wastes in accordance with enterprise procedures, relevant codes and regulations

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- safely cleaning work preparation areas and equipment using appropriate cleaning agents, equipment and techniques
- safely removing spillages and disposing of wastes
- minimising the exposure to hazards of self, others and the laboratory
- safely storing equipment and materials using enterprise procedures, relevant codes and guidelines
- monitoring and reporting stock levels and the condition of laboratory materials and equipment
- keeping accurate, up-to-date records
- reporting potential hazards and maintenance issues using enterprise procedures

Required knowledge

Required knowledge includes:

- enterprise procedures for the cleaning of work preparation areas, materials and equipment
- storage requirements for specific materials and equipment
- enterprise procedures for minimisation and disposal of waste
- enterprise procedures for monitoring of laboratory stocks
- information contained in material safety data sheets (MSDS) for materials handled regularly during the performance of maintenance tasks
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • follow enterprise procedures, relevant codes and guidelines when maintaining the laboratory/field workplace • work safely and minimise exposure of hazards to self, others and the laboratory • keep accurate up-to-date records and report potential hazards and maintenance issues.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL943002A Participate in laboratory/field workplace safety.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • access to work preparation areas, stocks, materials and equipment • cleaning, decontamination and/or disinfection agents and equipment • personal protective equipment • stock order forms, labels and records/forms.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of the candidate's techniques for cleaning and/or removal of spillages and waste disposal • review of stock records completed by the candidate • feedback from supervisors and peers • questioning to assess underpinning knowledge of regulations and procedures where direct observation is difficult (such as dealing with hazards) and choice of materials and equipment. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess</p>

EVIDENCE GUIDE	
	<p>directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>On receipt of a bulk container of cleaning or sanitising agent, a laboratory assistant always attached to the container a description of its method of use. The assistant also attached a list of the surfaces, apparatus, utensils and machines that could be safely treated with that chemical agent as outlined in the company's quality manual. This practice reduced the likelihood of misuse of the chemical, wastage, damage to equipment and inadequate cleaning and sanitation.</p> <p>Biomedical and environmental</p> <p>Laboratory assistants and technical officers routinely examine fluids for micro-organisms using a microscope. They examine fluids, such as urine, seawater, chlorinated pool water, water from catchment areas and bottled water. To maintain microscopes in working order, they thoroughly clean the stage, oculars and each objective after use and sometimes between samples. The 100X objective requires particular care since this is the oil immersion objective. The oil is slightly acidic and will slowly corrode the objective if it is not cleaned thoroughly and regularly. After using the 100X objective they also take care not to drag the other objectives through the oil.</p> <p>Food processing</p> <p>A laboratory assistant regularly uses standard pH</p>

EVIDENCE GUIDE

solutions to calibrate the laboratory's pH meters. The assistant is aware from the label that the shelf life of these solutions after opening is two months and records the opening and disposal dates on the container. The assistant is also aware that the shelf life of unopened buffer solutions is twelve months from the date of manufacture and monitors this by noting the production date on the bottle. Requests for stock replacement take into account the normal rate of use of these buffer solutions so that unopened bottles have not reached their expiry date before use.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards such as:
 - AS 1678 Emergency procedure guide - Transport
 - AS 1940-2004 Storage and handling of flammable and combustible liquids
 - AS 2252 Biological safety cabinets
 - AS 3780-2008 The storage and handling of corrosive substances
 - AS 4332-2004 The storage and handling of gases in cylinders
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 1269 Set:2005 Occupational noise management set
 - AS/NZS 1337 Eye protection
 - AS/NZS 2161 Set:2008 Occupational protective gloves set
 - AS/NZS 2210:1994 Occupational protective footwear
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS 2243.8:2006 Safety in laboratories - Fume cupboards
 - AS/NZS 2865 Set:2005 Safe working in a confined space set
 - AS/NZS 2982.1:1997 Laboratory design and construction - General requirements

RANGE STATEMENT

- AS/NZS 4187:2003 Cleaning, disinfecting and sterilising reusable medical and surgical instruments and equipment, and maintenance of associated environments in health care facilities
- AS/NZS 4452:1997 The storage and handling of toxic substances
- AS/NZS 4501 Set:2008 Occupational clothing set
- AS/NZS ISO 14000 Set:2005 Environmental management standards set
- animal welfare legislation and codes of practice
- Australian code of good manufacturing practice for medicinal products (GMP)
- Australian Dangerous Goods Code
- Australian Quarantine and Inspection Service (AQIS) Export Control (Orders) Regulations 1982
- Australian Quarantine and Inspection Service (AQIS) Import Guidelines
- Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Codes of Practice
- enterprise or standard operating procedures (SOPs)
- equipment manuals and warranties, supplier catalogues and handbooks
- gene technology regulations
- guide to physical containment levels and facility types
- HB 9-1994 Occupational personal protection
- material safety data sheets (MSDS)
- National Code of Practice for the labelling of workplace substances (NOHSC:2012 (1994))
- national environment protection measures
- National Health and Medical Research Council (NHMRC) Guidelines
- national measurement regulations and guidelines
- occupational health and safety (OHS) national standards and codes of practice
- principles of good laboratory practice (GLP)
- Therapeutic Goods Regulations 1009

RANGE STATEMENT**Equipment, material procedures and facilities**

Equipment, material procedures and facilities may include:

- animal cages
- autoclaves
- balances
- blenders, centrifuges and separating equipment
- brushes
- cell counters and staining machines
- colorimeters/spectrometers and polarimeters
- compaction rammers and soil classification equipment
- conductivity meters and pH meters
- dishwashers, refrigerators, freezers, ovens, microwave ovens, incubators and water baths
- disintegration apparatus, thermometers and incubators
- fume hoods, biohazard containers and biological safety cabinets
- gas cylinders
- glassware, plastic ware; glass, plastic and quartz cuvettes
- hotplates, mantles, burners and muffle furnaces
- instrument chart recorders, penetrometers, force measuring equipment and tensiometers
- light and fluorescence microscopes
- melting point apparatus, viscometers and hardness testing equipment
- microtomes and tissue processors
- mixing and separating equipment such as centrifuges, riffers and splitters and mixers
- noise meters and blasting meters
- optical microscopes
- pipettes, burettes and volumetric glassware
- shovels, scoops, plates, rods, cylinder moulds and buckets
- steel ruler/tapes and spirit levels
- thermometers, thermohygrographs, instrument chart recorders, hydrometers, pH meters and ion-selective electrodes
- ultrasonic cleaners
- vehicles

RANGE STATEMENT	
Typical materials	<p>Typical materials may include:</p> <ul style="list-style-type: none"> • consumable items, such as syringes, pipette tips, weigh boats • disposable clothing and personal protective equipment • distilled water, reagents, chemicals, disinfectants, detergents, agar media and plates • equipment spares, such as fuses, bulbs and batteries • oils/lubricants, fuels, industrial gases and cryogenics, such as dry ice and liquid nitrogen • paper and stationery • reference samples and standards
Maintenance	<p>Maintenance may include:</p> <ul style="list-style-type: none"> • checking serviceability before storage • cleaning • prevention of contamination • storing
Cleaning requirements	<p>Cleaning requirements may include:</p> <ul style="list-style-type: none"> • decontamination and/or disinfection • hygiene monitoring • minimising environmental impacts • operation of automatic cleaning apparatus, such as pipette washer, ultrasonic cleaners and dishwashers • sterilisation and disposal of wastes using boiling, high pressure air or steam, microwaves, chemicals, gas, filtration, ultraviolet radiation and autoclaving • use of specialised techniques, such as chromic acid baths and soaking in hypochlorite
Preparation areas	<p>Preparation areas may include:</p> <ul style="list-style-type: none"> • benches • fume cupboards • sheds • sinks
Agents for cleaning	<p>Agents for cleaning may include:</p> <ul style="list-style-type: none"> • cleaning solutions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • decontaminants • organic solvents
Spillages	<p>Spillages may include:</p> <ul style="list-style-type: none"> • chemicals • radioactive materials • biologically active materials
Wastes	<p>Wastes may include:</p> <ul style="list-style-type: none"> • broken glass • batteries • disposable personal protective equipment • excess test samples • micro-organisms • plastic and metals • sharps • solvents • spent reagents • spent samples and test pieces • used containers, boxes, bags and palettes
Stock records	<p>Stock records may include:</p> <ul style="list-style-type: none"> • calibration and maintenance history • data sheets • handbooks, warranty documents, catalogues, manuals and MSDS • records of usage, loans and breakages
Communication	<p>Communication could involve other people, such as:</p> <ul style="list-style-type: none"> • laboratory, production, administration and cleaning staff • internal/external contractors • emergency personnel
Maintenance issues	<p>Maintenance issues could involve:</p> <ul style="list-style-type: none"> • checking materials and equipment are fit for purpose • equipment malfunction • hygiene issues • potential hazards, incidents and emergencies • recycling and waste disposal

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spillages, leakages, breakages and contamination • stock requirements and shortages
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • aerosols from broken centrifuge tubes and pipetting • chemicals, such as acids, heavy metals, pesticides and hydrocarbons • crushing, entanglement and cuts associated with moving machinery or falling objects • cryogenics, such as dry ice and liquid nitrogen • electric shock • fluids under pressure, such as steam and industrial gas cylinders • manual handling, working at heights and working in confined spaces • microbiological organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • occupational overuse syndrome, slips, trips and falls • pedestrian and vehicular traffic • sharps, broken glassware and hand tools • solar radiation, dust and noise • sources of ignition, flammable liquids and gases
Established safe work practices	<p>Established safe work practices may include:</p> <ul style="list-style-type: none"> • applying containment procedures through the use of appropriate equipment, such as biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets and Class PCII, PCIII, and PCIV physical containment facilities • ensuring access to service shut-off points • following established manual handling procedures for tasks involving manual handling • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions • identifying and reporting operating problems or equipment malfunctions

RANGE STATEMENT	
	<ul style="list-style-type: none"> • labelling of samples, reagents, aliquoted samples and hazardous materials • recognising and observing hazard warnings and safety signs • reporting to appropriate personnel of abnormal emissions, discharges and airborne contaminants, such as noise, light, solids, liquids, water/waste water, gases, smoke, vapour, fumes, odour and particulates • use of MSDS • use of personal protective equipment, such as hard hats, hearing protection, gloves, safety glasses, goggles, face guards, coveralls, gown, body suits, respirators and safety boots
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Maintenance
--------------------	-------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL943002A Participate in laboratory/field workplace safety

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to follow workplace occupational health and safety (OHS) policies and procedures, deal with the identification and control of hazards, work safely at all times, follow emergency response procedures and contribute to the maintenance of workplace safety.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory assistants and instrument operators working in all industry sectors. OHS responses are restricted to a 'first response' approach, including the notification of appropriate enterprise personnel. Workers will be provided with clear directions, information, training and appropriate supervision.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify, control and report OHS and environmental hazards	1.1. Routinely check immediate work area for hazards prior to commencing and during work 1.2. Address hazards within area of responsibility 1.3. Report hazards and incidents to designated personnel according to enterprise policies and procedures
2. Conduct work safely	2.1. Select, fit and use appropriate personal protective clothing and equipment 2.2. Follow enterprise procedures when carrying out work tasks 2.3. Keep all work areas clean and free from obstacles 2.4. Maintain enterprise standards of personal hygiene 2.5. Safely store, transport and dispose of hazardous materials and dangerous goods
3. Follow incident and emergency response procedures	3.1. Identify incident and emergency situations 3.2. Report and record incident and emergency situations according to enterprise procedures 3.3. Follow incident and emergency procedures as appropriate to the nature of emergency, using emergency equipment according to enterprise procedures
4. Contribute to OHS in the workplace	4.1. Raise OHS and environmental issues with designated personnel in accordance with enterprise procedures and legislated rights and obligations of employees 4.2. Participate in OHS activities within scope of responsibilities

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- recognising potential incidents and taking appropriate corrective action
- demonstrating workplace fire drill, incident, first aid and emergency evacuation procedures
- hazard identification and risk control, following OHS and environmental policies and procedures
- using, storing and maintaining personal protective equipment
- storing, transporting and disposing of dangerous goods following enterprise instructions and procedures
- using equipment to protect health and safety
- promptly communicating health and safety and environmental issues to designated personnel

Required knowledge

Required knowledge includes:

- roles, rights and responsibilities of self and employer
- signage, symbols and signals relating to OHS
- hazards commonly found in own job and work area and standard risk controls
- location and purpose of personal protective equipment and emergency/hazard control equipment in the work area, including first aid facilities and personnel
- use, care and storage requirements for personal protective clothing and equipment used
- location of advice and information on OHS issues, including material safety data sheets (MSDS)
- requirements and procedures for reporting OHS hazards and incidents, including injuries, illness and near misses
- the processes for raising a health and safety issue or concern
- safe work practices, including handling, storage and disposal of hazardous substances and requirements for labelling of hazardous substances
- work practices for use of handling equipment and any task-specific manual handling techniques as required by work role, according to enterprise procedures
- standard operating procedures (SOPs) for equipment used and key safety elements of the procedures
- environmental impacts and effects of interaction with hazards in the work area
- enterprise procedures and instructions that govern personal work, incidents and emergencies

REQUIRED SKILLS AND KNOWLEDGE

- reporting requirements for OHS issues and potentially hazardous situations
- site layout, including emergency exits, location and use of safety alarms, emergency response system, procedures and personnel
- enterprise OHS and environmental policies and procedures

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • work safely • recognise potential incidents and hazards and take appropriate corrective action • follow workplace incident, first aid and emergency response procedures • promptly communicate OHS and environmental issues to designated personnel.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • other relevant technical units of competency. <p>Resources may include:</p> <ul style="list-style-type: none"> • laboratory/field work environment, equipment and materials • personal protective equipment • enterprise procedures.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of the candidate preparing for and undertaking a range of work tasks • written and/or oral questioning to assess underpinning knowledge and likely reactions in hazardous/emergency situations • feedback from peers and supervisors • review of candidate's responses to case studies, scenarios and/or 'what ifs'. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to</p>

EVIDENCE GUIDE	
	<p>accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>A laboratory assistant working in a laboratory was asked to produce a particular solvent-borne paint. Because of the hazardous nature of the task, the assistant referred to the MSDS which specified that a particular respirator and gloves be used. The assistant followed the requirements and safely prepared the batch of paint.</p> <p>Food processing</p> <p>One task of a laboratory assistant in a food processing company is the determination of total nitrogen in food samples by the Kjeldahl method. The assay involves digestion of the food with an aliquot of 30% hydrogen peroxide and several other reagents at more than 400°C. The assistant is familiar with the MSDS for hydrogen peroxide and uses this chemical with appropriate caution and personal protective equipment. Small spills of hydrogen peroxide sometimes occur. The assistant knows to clean these up immediately by liberally diluting the spill with water, mopping it up with a cloth and washing the hydrogen peroxide from the cloth into a sink with copious amounts of water. This attention to cleanliness is essential to minimise the risk of injury because 30% hydrogen peroxide has the appearance of water. Unlike water, it is corrosive to skin and presents a serious fire or explosion hazard if it should come into contact with many of the chemicals used in the laboratory.</p> <p>Biomedical</p> <p>After performing and verifying cell counts of plated samples, a technical assistant proceeded to dispose of the</p>

EVIDENCE GUIDE

waste. The wastes were placed in a biohazard bag. The bag was sealed with a sterilisation indicator sticker that was clearly visible, and placed in the autoclave. The assistant checked the colour of the indicator sticker to ensure that the waste was correctly processed before disposing of the bag in accordance with SOPs.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards such as:
 - AS 1678 Emergency procedure guide - Transport
 - AS 1940-2004 Storage and handling of flammable and combustible liquids
 - AS 2252 Biological safety cabinets
 - AS 3780-2008 The storage and handling of corrosive substances
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
- AS/NZS 1269 Set:2005 Occupational noise management set
- AS/NZS 1337 Eye protection
- AS/NZS 2161 Set:2008 Occupational protective gloves set
- AS/NZS 2210:1994 Occupational protective footwear
 - AS/NZS 2243 Set:2006 Safety in laboratories set
- AS/NZS 2982.1:1997 Laboratory design and construction - General requirements
 - AS/NZS 4452:1997 The storage and handling of toxic substances
- AS/NZS 4501 Set:2008 Occupational clothing set
 - AS/NZS ISO 14000 Set:2005 Environmental management standards set

RANGE STATEMENT	
	<ul style="list-style-type: none"> • HB 9-1994 Occupational personal protection • Australian Dangerous Goods Code • Australian Quarantine and Inspection Service (AQIS) Import Guidelines • Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Codes of Practice • gene technology regulations • Guide to physical containment levels and facility types • National Code of Practice for the labelling of workplace substances [NOHSC:2012 (1994)] • OHS national standards and codes of practice
Routine checks	<p>Routine checks may include:</p> <ul style="list-style-type: none"> • general housekeeping checks, such as obstructions which may cause trip hazards • checking of safety equipment, such as eye wash stations • checking reagents and equipment are safe to use • checking availability of emergency equipment • checking functionality of personal protective equipment
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • electric shock • microbiological organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • solar radiation, dust and noise • chemicals, such as acids, heavy metals, pesticides and hydrocarbons • aerosols from broken centrifuge tubes and pipetting • radiation, such as alpha, beta, gamma, X-ray and neutron • sharps, broken glassware and hand tools • flammable liquids • cryogenics, such as dry ice and liquid nitrogen • fluids under pressure, such as steam, hydrogen in gas liquid chromatography and acetylene in atomic absorption spectrometry

RANGE STATEMENT	
	<ul style="list-style-type: none"> • sources of ignition • high temperature ashing processes • disturbance or interruption of services • occupational overuse syndrome, slips, trips and falls • manual handling, working at heights and working in confined spaces • crushing, entanglement and cuts associated with moving machinery or falling objects • pedestrian and vehicular traffic • vehicle and boat handling
Addressing hazards	<p>Addressing hazards may include:</p> <ul style="list-style-type: none"> • hazard and incident reporting and investigation procedures • elimination • substitution, such as review of nature of substances or processes used • isolation: <ul style="list-style-type: none"> • use of appropriate equipment, such as biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets • Class PCII, PCIII, and PCIV physical containment laboratories • engineering • administrative procedures, such as: <ul style="list-style-type: none"> • ensuring access to service shut-off points • recognising and observing hazard warnings and safety signs • labelling of samples, reagents, aliquoted samples and hazardous materials • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions • identifying and reporting operating problems or equipment malfunctions • cleaning and decontaminating equipment and work areas regularly using recommended procedures • applying containment procedures

RANGE STATEMENT	
	<ul style="list-style-type: none"> • following established manual handling procedures for tasks involving manual handling • use of appropriate equipment and procedures to avoid personal contamination and contamination of others • following risk control measures to minimise environmental hazards • use of practices which minimise waste • reporting to appropriate personnel of abnormal emissions, discharges and airborne contaminants, such as noise, light, solids, liquids, water/waste water, gases, smoke, vapour, fumes, odour and particulates • minimising exposure to radiation, such as lasers, electromagnetic and ultraviolet • use MSDS • use of signage, barriers and service isolation tags • use of personal protective equipment, such as hard hats, hearing protection, sunscreen lotion, gloves, safety glasses, goggles, face guards, coveralls, gown, body suits, respirators and safety boots
Designated personnel	<p>Designated personnel may include:</p> <ul style="list-style-type: none"> • laboratory manager • supervisor • OHS coordinator • OHS representative
Enterprise policies and procedures	<p>Enterprise policies and procedures may refer to:</p> <ul style="list-style-type: none"> • OHS specific procedures, such as hazard and incident reporting, communication, consultation and issue resolution and risk management • controlling known hazards • minimising environmental threats • minimising and disposing of waste • responding to safety, emergency, fire and incidents • selecting/using personal protective clothing

RANGE STATEMENT	
	and equipment
Incidents	<p>Incidents may include:</p> <ul style="list-style-type: none"> • workplace injury and accidents • cutting, stabbing, puncturing, crushing, immersion in water, suffocation, hypothermia, burns, heat stress, animal bites, allergic reactions and assaults • biological, chemical or radioactive spills, fire, bomb threat, security threat and explosion
Emergency equipment	<p>Emergency equipment may include:</p> <ul style="list-style-type: none"> • first aid equipment • eye wash kit or shower • fire extinguisher
Participating in OHS activities	<p>Participating in OHS activities may include:</p> <ul style="list-style-type: none"> • seeking assistance to clarify obligations and procedures • clarifying work instructions that impact on safety and legal liability
OHS and environmental issues which may need to be raised by employees with designated personnel	<p>OHS and environmental issues which may need to be raised by employees with designated personnel may include:</p> <ul style="list-style-type: none"> • identification of hazards not otherwise addressed • assessment of risk and decisions on measures to control risk • risk reduction measures • problems with implementation of controls • problems with recycling, by-product collection and waste disposal • investigation of injury and incidents • clarification of understanding of OHS policies and procedures
OHS and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any

RANGE STATEMENT

	<p>time</p> <ul style="list-style-type: none"> • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health
--	--

Unit Sector(s)

Unit sector	Occupational health and safety
--------------------	--------------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL952001A Collect routine site samples

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to collect samples at field or production sites using specified equipment and standard or routine procedures.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to production operators, field assistants and laboratory assistants in all industry sectors.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for sampling	1.1. Confirm the purpose, priority and scope of the sampling request 1.2. Liaise with relevant personnel to arrange site access and all necessary clearances/permits 1.3. Identify site hazards and review enterprise safety procedures 1.4. Confirm what samples are to be collected, from where, how and when 1.5. Assemble all specified sampling equipment, safety equipment, materials and containers 1.6. Conduct pre-use and cleanliness checks of all items to ensure they are fit for purpose 1.7. Check all items against given inventory and stow them to ensure safe transport
2. Conduct sampling	2.1. Locate sampling points and services at the site 2.2. Remove security devices, such as locks and covers as required 2.3. Seek advice if the required samples cannot be collected or if procedures require modification 2.4. Select and use required sampling equipment in accordance with given procedures 2.5. Closely follow sampling procedures to obtain required samples and maintain their integrity 2.6. Record all labelling information in accordance with enterprise/legal traceability requirements 2.7. Record sample appearance, environmental conditions and any other factors that may impact on sample integrity 2.8. Replace security devices, such as locks and covers as required
3. Finalise sampling	3.1. Follow enterprise procedures for the cleaning/decontamination of equipment and vehicle as necessary 3.2. Check all equipment, materials and samples against inventory and stow for safe transport 3.3. Liaise with relevant personnel to restore normal production and/or services as necessary 3.4. Maintain integrity of samples during transportation 3.5. Deliver samples to the required collection point and

ELEMENT	PERFORMANCE CRITERIA
	complete all documentation to ensure traceability 3.6. On return, check and document serviceability of equipment before storage
4. Maintain a safe work environment	4.1. Use established work practices and personal protective equipment to ensure personal safety and that of others 4.2. Minimise environmental impacts of sampling and generation of waste 4.3. Dispose of all waste in accordance with enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- collecting a variety of samples at a range of sites closely following sampling procedures
- collecting samples safely with minimal environmental impact
- maintaining the integrity and security of samples
- demonstrating enterprise and/or legal traceability requirements
- liaising with others to access sites and conduct sampling efficiently
- recognising own limitations the seeking timely advice

Required knowledge

Required knowledge includes:

- key terminology and concepts, such as sample, contamination, traceability, integrity and chain of custody
- concepts of metrology
- the international system of units (SI)
- purpose for which the samples have been collected
- the function of key sampling equipment/materials and principles of operation
- hazards, risks and enterprise safety procedures associated with routine sampling undertaken
- enterprise procedures dealing with:
 - sampling
 - waste management, clean up and spillage
 - handling, transport and storage of dangerous goods
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • correctly follow sampling procedures and plans when collecting samples • collect samples efficiently, safely and with minimal environmental impact • maintain the integrity and security of samples following the traceability requirements • recognise limitations and seek timely advice.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL972001A Conduct routine site measurements.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • variety of sample types • sampling procedures • a selection of sampling containers, equipment and documentation.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of sampling documentation completed by the candidate • review of the quality of samples collected by the candidate • observation of the candidate collecting a variety of samples at a range of sites • feedback from supervisors and clients that sampling plans were followed • oral/written questioning about sampling and safety procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p>

EVIDENCE GUIDE

	<p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
<p>This competency in practice</p>	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Construction materials testing</p> <p>A laboratory assistant takes daily tar samples from the company's retort which is used to heat tar to reduce its moisture content. The purpose of this sampling program and subsequent testing is to ensure that the water content of the hot tar is at a safe level before the tar is transferred to a road tanker and used for road construction. Serious accidents can occur during the transfer or use of tar as high water content can cause an explosion due to escape of steam. One day, the retort operator was running behind schedule and tried to convince the laboratory assistant that the water content of the tar was the same as yesterday and didn't need to be tested. The laboratory assistant was able to explain that a high water content could lead to a serious explosion and burns for the operator.</p> <p>Environmental</p> <p>A new field assistant was collecting samples of environmental run-off during wet weather. To successfully complete the activity, the assistant made sure that they included a sample thief, pipette, or similar to extract the sample, a container with a secure lid, and an indelible marker to write on the label. In addition, the assistant remembered to take sealable, waterproof plastic bags in which to put the containers once the samples were collected and a spare bag to protect the field notebook from rain damage.</p> <p>Manufacturing</p>

EVIDENCE GUIDE

A production operator has been given the task of collecting samples of the recent batches of blended products, prior to drumming and customer delivery. In addition, the operator is required to sample the bulk raw materials stored on-site, and the drummed blend ingredients, including some powdered pigments.

The operator knows that the lab needs the blend samples first and after putting on chemical gloves and safety glasses, accesses each sample point on each of the blend tanks. Because the products are under pressure in the tank manifold, it is important to guard against splashes. Some of the products are flammable hydrocarbons, so the operator ensures that static leads are connected from the tank to the sample vessel during pouring. To sample the drummed product, a sample thief is used and again, safety glasses and chemical gloves are important. The pigments present a dust hazard when being sampled, so the operator applies a protective mask over their nose and mouth, to prevent ingestion while they use a small purpose-built shovel to empty the contents into the sample container.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS ISO 14000 Set:2005 Environmental management standards set
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
- calibration and maintenance schedules
- enterprise recording and reporting procedures
- enterprise sampling procedures for specific samples, sites and clients
- environmental legislation and regulations
- equipment manuals
- equipment startup, operation and shutdown procedures
- industry codes of practice
- maps and site plans
- material safety data sheets (MSDS)
- material, production and product specifications
- National Association of Testing Authorities (NATA) documents regarding construction materials testing
- national measurement regulations and guidelines
- occupational health and safety (OHS) national

RANGE STATEMENT	
	<p>standards and codes of practice</p> <ul style="list-style-type: none"> • quality manuals • safety procedures • standard operating procedures (SOPs)
Site hazards	<p>Site hazards may include:</p> <ul style="list-style-type: none"> • solar radiation, dust and noise • wildlife, such as snakes, spiders and domestic animals • biohazards, such as micro-organisms and agents associated with soil, air and water • chemicals, such as acids and hydrocarbons • sharps and broken glassware • manual/handling of heavy sample bags and containers • crushing, entanglement and cuts associated with moving machinery and hand tools • falling objects, uneven surfaces, heights, slopes, wet surfaces, trenches and confined spaces • vehicle handling in rough terrain and boat handling in rough or flowing water
Safety procedures	<p>Safety procedures may include:</p> <ul style="list-style-type: none"> • use of MSDS • use of personal protective equipment, such as hard hats, heavy protection, gloves, safety glasses, goggles, faceguards, coveralls, gowns, body suits, respirators and safety boots • correct labelling of hazardous materials • handling and storing hazardous material and equipment in accordance with labels, MSDS, manufacturer's instructions and enterprise procedures and regulations • regular cleaning and/or decontamination of equipment • machinery guards • signage, barriers, service isolation tags, traffic control and flashing lights • lockout and tag-out procedures
Types of samples	<p>Types of samples may include:</p> <ul style="list-style-type: none"> • grab samples

RANGE STATEMENT	
	<ul style="list-style-type: none"> • disturbed or undisturbed materials • composite samples, such as time, flow proportioned and horizontal/vertical cross section • quality control samples, such as controls, background, duplicate and blanks
Materials sampled	<p>Materials sampled may include:</p> <ul style="list-style-type: none"> • gas or air samples • water, wastewater, stormwater, sewage and sludge • soils • construction materials • solid wastes, such as commercial, industrial and mining • raw materials, start, middle, end of production run samples and final products for a wide range of manufactured items, including food and beverages • hazardous materials and/or dangerous goods
Sampling tools and equipment	<p>Sampling tools and equipment may include:</p> <ul style="list-style-type: none"> • front-end loader, backhoe, excavator and drill rig • shovels, augers and bucket • sampling frames, sampling tubes, dip tubes, spears, flexible bladders and syringes • access valves • sample thief • weighted sample bottles, bottles, plastic/metal containers and disposable buckets • sterile containers, pipettes, inoculating loops and disposable spoons • pumps and stainless steel bailers
Maintenance of integrity of samples	<p>Maintenance of integrity of samples could include:</p> <ul style="list-style-type: none"> • appropriate containers and lids (e.g. glass, plastic, amber and opaque) • sealing of sample containers • purging of sample lines and bores • decontamination of sampling tools between collection of consecutive samples • use of appropriate preservatives (e.g. sodium

RANGE STATEMENT	
	<p>azide, toluene or antibiotics)</p> <ul style="list-style-type: none"> • wrapping container in foil or wet newspaper • temperature control, which may involve prevention of direct contact between the sample and coolant • transfer of sterile sample into sterile container • monitoring of storage conditions • enterprise/legal traceability through appropriate sample labelling and records
Services	<p>Services may include:</p> <ul style="list-style-type: none"> • water supply, gas and electricity • telecommunications • irrigation, stormwater and drainage systems • production plant
Minimising environmental impacts	<p>Minimising environmental impacts may involve:</p> <ul style="list-style-type: none"> • replacement of soils and vegetation • driving to minimise soil erosion and damage to fauna and vegetation • disposal of surplus, spent or purged materials • recycling of non-hazardous wastes • appropriate disposal of hazardous waste • cleaning of vehicles to prevent transfer of pests and contaminants
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Sampling
-------------	----------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

MSL952002A Handle and transport samples or equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to pick up and transport samples or test/calibration equipment in a way which ensures the integrity of subsequent test results.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to couriers and laboratory and field assistants in all industry sectors. The person transporting the items is not necessarily responsible for sampling or testing. This unit does not cover sample collection or the ability to handle and transport animals as might be defined under prevailing animal care and ethics legislation and practices.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for pickup	1.1. Confirm pickup sequence and any licence/permit requirements with supervisor 1.2. Check that vehicle and communication devices are in working order 1.3. Check that required transport containers and materials are in the vehicle
2. Pick up and transport items	2.1. Confirm the number and nature of items to be picked up on arrival 2.2. Ensure items match paperwork 2.3. Apply enterprise requirements to the transport of samples and/or equipment 2.4. Alert laboratory personnel to any special needs that are identified on documents accompanying the items 2.5. Complete required documentation at pickup point 2.6. Stow items in the specified transport containers and under the required conditions 2.7. Maintain sample integrity at all times 2.8. Deliver items to reception point in accordance with enterprise procedures 2.9. Maintain confidentiality of information
3. Maintain transport equipment	3.1. Maintain vehicle according to enterprise requirements 3.2. Maintain state of transport containers to ensure they are fit for purpose 3.3. Requisition stocks of consumable materials as required 3.4. Replenish stocks of collecting equipment at collection centres as required
4. Maintain a safe work environment	4.1. Use established work practices and personal protective equipment to ensure personal safety and that of others 4.2. Clean up spills, if they occur, using enterprise procedures 4.3. Minimise the generation of waste 4.4. Dispose of all waste in accordance with enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- planning the picking up of items in conjunction with a supervisor
- preparing a vehicle for the required journey
- using communication devices so contact is possible between the courier, reception centre, and routine pickup locations
- communicating effectively and courteously with individuals, customers, clients and reception staff
- recording details of item exchange in relevant sections of chain of custody forms, as required
- maintaining the integrity of collected samples or equipment during transport
- containing and cleaning up spillage or breakages
- using appropriate techniques and equipment to safely dispose of waste materials
- maintaining confidentiality in all aspects of work
- reporting of problems, accidents or incidents in accordance with enterprise procedures

Required knowledge

Required knowledge includes:

- the relationship between effective communication with clients and customers and enterprise business
- the need for appropriate and timely transport
- control measures for minimising exposure to hazardous materials and equipment
- effect of changes in environmental conditions, vibration and shock on samples
- procedures for the containment and cleanup of spillages and breakages
- efficient waste containment and disposal practices
- maintenance requirements of equipment used in the processes of handling and transporting samples
- relevant health, safety and environment requirements
- enterprise procedures for responding to emergencies
- contact details for key personnel

Specific industry

Additional knowledge requirements may apply for different industry sectors. For example: Biomedical samples:

- labile nature of biological and environmental samples
- possible infectivity of biological materials

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• possible effects of exposure to radioactive materials |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • follow required policies and procedures to maintain the integrity of collected samples or equipment during transport • deal with customers effectively and courteously • work safely • maintain confidentiality and report problems, accidents and incidents in accordance with procedures.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL943002A Participate in laboratory/field workplace safety.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • vehicle • enterprise procedures for the handling and transport of samples or equipment • communication devices • sample containers • containers for transporting samples and test/calibration equipment.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of the job sheets or journal of completed activities • direct observation of work as a courier • the quality of review of results traceable to the transport of samples or equipment by candidate • oral or written questions to assess knowledge of the handling of unforeseen circumstances • simulated role plays between a courier and personnel at a reception desk or customer pickup centre.

EVIDENCE GUIDE

	<p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
<p>This competency in practice</p>	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Calibration</p> <p>Calibration laboratories must take special care to ensure that they do not damage test equipment during handling, testing or storage. Information relating to equipment requiring special handling, transport or storage conditions should be provided to those responsible for collecting and transporting the items.</p> <p>A customer-orientated calibration laboratory offers a door to door calibration service to most of its clients. Once a week their driver arrives at a major facility and takes delivery of several precision measuring instruments. As always, the driver signs the acceptance note paying particular attention that all the items are recorded correctly, including listing all accessories and associated handbooks. But this time, two delicate items require unique transit cases to ensure they are stored and transported upright. Because the laboratory received prior notice, these cases were loaded into the van before setting off as well as a copy of the special transport and packaging instructions. The driver secures all the items in accordance with the accompanied written instructions to ensure their safe travel and minimise damage during transit. Upon return, the driver unloads the van and the instruments are acquitted by administration staff,</p>

EVIDENCE GUIDE

inspected for damage and booked into the laboratory. The lab supervisor makes sure that their technicians are aware of the special handling requirements of the two delicate instruments.

Biotechnology

During transit, samples must be handled and maintained under conditions which will ensure that their potency and efficacy are maintained. A courier has been asked to transport vaccine samples from the airport to the enterprise for laboratory evaluation. The supervisor faxes the courier company detailed instructions regarding pickup and handling/storage conditions during transit. In this case, the samples are in insulated containers and the temperature is monitored and recorded continuously. The courier collects the samples, puts them in the coolest part of the vehicle, ensuring that the package will not be subject to any sudden jolts, and transports them to the enterprise. After the samples arrive they are checked by the enterprise and appropriate documentation completed.

Biomedical

At 8 am the courier commences the day shift. The shift supervisor identifies the collection centres to be visited. The courier takes the mobile phone from the charger and checks their pager. In the vehicle, the courier logs in the odometer reading, makes a mental note of the fuel level, checks the cooler boxes and other equipment and carefully drives out. Today, there are pickups from four private hospitals and 12 collecting centres in a 200 sq km zone. As they approach the first hospital, there is a call from base with instructions to collect a tissue biopsy and bring it back immediately. He/she asks the base contact to tell haematology that their 10 am specimen arrival will be 40 minutes late because of this unforeseen diversion. Eventually, they complete the round, having remembered to replenish specimen collecting stock at each centre visited.

Environmental (1)

A technical assistant regularly handles and transports sensitive equipment over rough terrain in a 4WD vehicle. After reaching a field site, they are asked to transport expensive water monitoring equipment across an estuary in a small aluminium boat. The assistant notes that the equipment boxes are open to the weather and will need to be made waterproof. Because the water is choppy, the

EVIDENCE GUIDE

assistant adds extra packing material to cushion the most shock sensitive items. They choose to travel with the equipment rather than entrusting it to the local fisherman. Together, they carefully secure the items on the seats rather than placing them on the floor of the boat which is wet.

Environmental (2)

A waste management authority has sent one of their laboratory technicians to collect six containers that have been found by a member of the public on the verge of an industrial area service road. Given that the materials may be hazardous the technician assembles a full set of safety equipment. They also locate a laptop computer with MSDS information, a list of phone contacts for agencies responsible for handling hazardous materials and suitable containers for storing/transporting potentially hazardous materials. Upon arrival at the site, the technician locates six containers of concentrated sulphuric acid which are clearly labelled. The technician consults the MSDS for information on appropriate handling, storage and transportation procedures and follows them closely.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used.

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards such as:
- AS 1678 Emergency procedure guide -Transport
- AS 1940-2004 Storage and handling of flammable and combustible liquids
- AS 4332-2004 The storage and handling of gases in cylinders
- AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
- AS/NZS 2243 Set:2006 Safety in laboratories set
- AS/NZS 4452:1997 The storage and handling of toxic substances
- AS/NZS ISO 14000 Set:2005 Environmental management standards set
- animal welfare legislation and codes of practice
- Australia Post Guides
- Australian Dangerous Goods Code
- Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) Codes of Practice
- International Air Transport Association (IATA) Regulations
- material safety data sheets (MSDS)
- occupational health and safety (OHS) national standards and codes of practice

Paperwork and documentation

Paperwork and documentation may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • enterprise protocols regarding customer liaison and communication • vehicle log books • protocols for use of pagers, mobile telephones and two-way radios • precautions for safe handling and handling of specific materials (e.g. toxic, infective, radioactive and dangerous goods) • precautions for the transport of volatile and unstable fluids • incident/accident report forms • spillage and waste containment and disposal protocols and containment materials
Maintenance of the integrity of samples or test/calibration equipment	<p>Maintenance of the integrity of samples or test/calibration equipment could involve:</p> <ul style="list-style-type: none"> • use of appropriate sample containers (glass, plastic and opaque) • use of appropriate preservatives • wrapping container in foil to exclude light • temperature control, which may involve prevention of direct contact between the sample and coolant • use of appropriate equipment boxes (insulated, shockproof and waterproof) • restraint of containers to prevent movement • checking sample viability during transport while avoiding unnecessary handling
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • biohazards, such as micro-organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • chemicals, such as acids and hydrocarbons • sharps and broken glassware • manual handling of heavy sample bags and containers and equipment
Safety practices	<p>Safety practices may include:</p> <ul style="list-style-type: none"> • use of MSDS • use personal protective equipment, such as gloves, safety glasses, goggles and coveralls

RANGE STATEMENT	
	<ul style="list-style-type: none"> • use of biohazard containers • safe road/off road driving practices • correct labelling of hazardous materials • handling and storing hazardous material and equipment in accordance with labels, MSDS, manufacturer's instructions, and enterprise procedures and regulations • regular cleaning and/or decontaminating of equipment and vehicle
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Sampling
--------------------	----------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL972001A Conduct routine site measurements

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to make direct measurements using enterprise procedures. Measurements will be straightforward and involve a minimal number of steps, take a short time, have easily recognised control limits and use equipment calibrated by others.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to production operators, field assistants and laboratory assistants in manufacturing, construction materials and environmental services industry sectors.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for measurements	1.1. Confirm the purpose, priority and nature of measurements required 1.2. Liaise with relevant personnel to arrange site access and all necessary clearances/permits 1.3. Identify site hazards and review enterprise safety procedures 1.4. Assemble all measuring and safety equipment and check they are fit for purpose 1.5. Check all equipment/materials against a given inventory and stow them to ensure safe transport 1.6. Arrange appropriate transport for site access as required
2. Perform measurements	2.1. Locate measurement points and services at the site 2.2. Gain access to measurement points by removing covers and locks as appropriate 2.3. Seek advice if the required measurements cannot be made or if procedures require modification 2.4. Operate measuring equipment in accordance with enterprise procedures and manufacturer's instructions 2.5. Take sufficient readings to ensure reliable data 2.6. Record data with appropriate accuracy, precision and units 2.7. Record environmental/site conditions and any other observations that may impact on data quality 2.8. Recognise obvious errors/atypical data and take appropriate corrective action 2.9. Secure measuring points by replacing covers and locking as appropriate
3. Finalise measurements	3.1. Follow enterprise procedures for the cleaning/decontamination of equipment and vehicle as necessary 3.2. Check all equipment and materials against inventory and stow for safe transport 3.3. Liaise with relevant personnel to restore normal production and/or services as necessary 3.4. Report all measurements in accordance with enterprise procedures 3.5. On return, check and document serviceability of equipment before storage

ELEMENT	PERFORMANCE CRITERIA
4. Maintain a safe work environment	4.1. Use established work practices and personal protective equipment to ensure personal safety and that of others 4.2. Minimise environmental impacts of measurements and generation of waste 4.3. Dispose of all waste in accordance with enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- performing a variety of measurements at a range of sites following procedures
- making measurements with minimal environmental impact
- accurately reading scales/displays for a wide range of values
- recording data which is legible, free of errors and uses appropriate accuracy, precision and units
- demonstrating enterprise and/or legal traceability requirements
- liaising with others to access sites and perform measurements efficiently
- recognising own limitations and the seeking timely advice

Required knowledge

Required knowledge includes:

- key terminology and concepts, such as analogue, digital, accuracy, precision, traceability, uncertainty and chain of custody
- purpose of the measurements
- concepts of metrology
- the international system of units (SI)
- the function of key equipment/materials and principles of operation
- hazards, risks and enterprise safety procedures associated with routine measurements undertaken
- enterprise procedures dealing with:
 - measurements
 - waste management, cleanup and spillage
 - handling, transport and storage of dangerous goods
- relevant health, safety and environmental requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • follow procedures when performing a variety of measurements at a range of sites • work safely and with minimal environmental impact • liaise with people effectively and courteously • maintain confidentiality and report problems and incidents in accordance with procedures.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL952001A Collect routine site samples.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • access to a variety of sites • measurement and safety procedures • a selection of measuring equipment and documentation.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of the quality of data and documentation provided by the candidate • observation of the candidate performing a range of measurements • feedback from supervisors and clients that relevant procedures were followed • oral/written questioning about measurement procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and</p>

EVIDENCE GUIDE

	<p>disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
<p>This competency in practice</p>	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Manufacturing and construction materials testing</p> <p>A laboratory assistant is required to conduct daily routine site measurements around the plant. Each day they contact the engineering department to arrange for an engineer to accompany them to operate all mechanical systems (e.g. valves and pitcovers) associated with collection of samples and/or site measurements. The laboratory assistant locates the required safety equipment, ensures that all measurement equipment is operational and pre-calibrated and dons appropriate personal protective equipment. They record site measurements directly in the plant monitoring log book along with any comments concerning plant operating conditions. Upon returning to the laboratory they enter this information into the laboratory information management system (LIMS). The laboratory assistant then cleans and stores all equipment used in the routine site measurements.</p> <p>Environmental</p> <p>A field assistant is part of a team examining the rehabilitation of a mine site. They help to construct a grid map of the study area. The assistant is given identification photo cards for six species of plant and asked to count the number of each species in part of the grid, taking care to minimise environmental impact. They then record the data on a map using a predetermined key.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS ISO 14000 Set:2005 Environmental management standards set
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
- enterprise procedures for specific client measurements at particular sites
- enterprise recording and reporting procedures
- equipment manuals
- equipment startup, operation and shutdown procedures
- maps and site plans
- material safety data sheets (MSDS) and safety procedures
- material, production and product specifications
- national measurement regulations and guidelines
- occupational health and safety (OHS) national standards and codes of practice
- standard operating procedures (SOPs)

Concepts of metrology

Concepts of metrology may include:

- that all measurements are estimates

RANGE STATEMENT	
	<ul style="list-style-type: none"> • measurements belong to a population of measurements of the measured parameters • repeatability • precision • accuracy • significant figures • sources of error • uncertainty • traceability
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • solar radiation, dust and noise • wildlife, such as snakes, spiders and domestic animals • biohazards, such as micro-organisms and agents associated with soil, air and water • chemicals, such as acids and hydrocarbons • manual/handling of heavy equipment or materials • crushing, entanglement and cuts associated with moving machinery • falling objects, uneven surfaces, heights, slopes, wet surfaces, trenches and confined spaces • vehicle handling in rough terrain and boat handling in rough or flowing water • vehicular or pedestrian traffic
Safety practices	<p>Safety practices may include:</p> <ul style="list-style-type: none"> • use of MSDS • use personal protective equipment, such as hard hats, hearing protection, gloves, safety glasses, goggles, face-guards, coveralls, gowns, body suits, respirators and safety boots • correct labelling of hazardous materials • handling and storing hazardous material and equipment in accordance with labels, MSDS, manufacturer's instructions, enterprise procedures and regulations • regular cleaning and/or decontaminating of equipment • machinery guards • signage, barriers, service isolation tags, traffic

RANGE STATEMENT	
	<p>control, flashing lights</p> <ul style="list-style-type: none"> lockout and tag-out procedures
Measurements	<p>Measurements could include the use of instruments and/or kits to test:</p> <ul style="list-style-type: none"> pH, specific ions, such as iron in water using dipsticks dissolved oxygen (DO) electrical conductivity (EC)
Other measurements	<p>Other measurements may include:</p> <ul style="list-style-type: none"> sound (e.g. dB level and dBA) light levels and illumination basic production/process parameters (e.g. flow, temperature, pressure, mass and depth) simple surveys (e.g. number of trees in quadrant) background radiation (e.g. Geiger counter) dimensions meteorological measurements (e.g. temperature, rainfall and wind)
Common measuring equipment	<p>Common measuring equipment may include:</p> <ul style="list-style-type: none"> tape measure, rulers, micrometers callipers and water level indicators balances meter/probe systems (e.g. DO and EC) analogue and digital meters (e.g. voltage, current, resistance, pressure, temperature, barometers, anemometers and hygrometers) dipsticks or spot test kits clocks and timing devices
Services	<p>Services may include:</p> <ul style="list-style-type: none"> water supply, gas and electricity telecommunications irrigation, stormwater, drainage and sewerage systems production plant
Appropriate corrective actions	<p>Appropriate corrective actions may include:</p> <ul style="list-style-type: none"> logical check of equipment setup check of calibration, zero error and drift for

RANGE STATEMENT	
	basic instruments <ul style="list-style-type: none"> • careful re-reading of procedures • repeat measurements • seek advice
Minimising environmental impacts	Minimising environmental impacts may involve: <ul style="list-style-type: none"> • disposal of surplus, spent or purged materials • recycling of wastes • responsible driving to avoid damage to vegetation and fauna • cleaning of vehicles to prevent transfer of pests and contaminants
Occupational health and safety (OHS) and environmental management requirements	OHS and environmental management requirements <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL973001A Perform basic tests

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to perform tests and measurements using standard methods with access to readily available advice from supervisors.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory/field assistants working in all industry sectors. In general, they do not calibrate equipment and make only limited adjustments to the controls. They do not interpret or analyse results or troubleshoot equipment problems.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret test requirements	1.1. Review test request to identify samples to be tested, test method and equipment involved 1.2. Identify hazards and enterprise controls associated with the sample, preparation methods, reagents and/or equipment
2. Prepare sample	2.1. Record sample description, compare with specification, record and report discrepancies 2.2. Prepare sample in accordance with appropriate standard methods
3. Check equipment before use	3.1. Set up test equipment in accordance with test method 3.2. Perform pre-use and safety checks in accordance with enterprise procedures and manufacturer's instructions 3.3. Identify faulty or unsafe equipment and report to appropriate personnel 3.4. Check calibration status of equipment and report any out of calibration items to appropriate personnel
4. Perform tests on samples	4.1. Identify, prepare and weigh or measure sample and standards to be tested 4.2. Conduct tests in accordance with enterprise procedures 4.3. Record data in accordance with enterprise procedures 4.4. Perform calculations on data as required 4.5. Identify and report out of specification or atypical results promptly to appropriate personnel 4.6. Shut down equipment in accordance with operating procedures
5. Maintain a safe work environment	5.1. Use established safe work practices and personal protective equipment to ensure personal safety and that of other laboratory personnel 5.2. Minimise the generation of wastes and environmental impacts 5.3. Ensure safe disposal of laboratory and hazardous wastes 5.4. Clean, care for and store equipment and reagents as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting enterprise procedure or standard methods accurately
- using safety information, such as material safety data sheets (MSDS) and performing procedures safely
- checking test equipment before use
- completing all tests within required timeline without sacrificing safety, accuracy or quality
- calculating, recording and presenting results accurately and legibly
- maintaining security, integrity and traceability of all samples, data/results and documentation
- cleaning and maintaining equipment

Required knowledge

Required knowledge includes:

- concepts of metrology
- the international system of units (SI)
- purpose of test
- principles of the standard method
- pre-use equipment checks
- relevant standards/specifications and their interpretation
- sources of uncertainty in measurement and methods for control
- enterprise and/or legal traceability requirements
- interpretation and recording of test result, including simple calculations
- procedures for recognition/reporting of unexpected or unusual results
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • accurately interpret enterprise procedures or standard methods • complete all tests within the required timeline without sacrificing safety, accuracy or quality • demonstrate close attention to the accuracy and precision of measurements and the data obtained • maintain the security, integrity and traceability of all samples, data/results and documentation.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL922001A Record and present data.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with appropriate equipment standards and materials • enterprise procedures and standard methods, and equipment manuals • MSDS.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of the quality of test data/results achieved by the candidate over time • inspection of records and workplace documentation completed by the candidate • feedback from peers and supervisors • observation of the candidate performing a range of basic tests • oral or written questioning to check underpinning knowledge of test procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess</p>

EVIDENCE GUIDE

	<p>directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>Standard testing methods may be viewed as legal requirements that must be followed to ensure that a product manufactured in a chemical plant meets the specification by which it is sold to the customer. Technical assistants perform tests in a quality control laboratory to ensure that material meets legal requirements and the material is safe and effective in use. Peroxides may be present in ether as a result of light-catalysed air oxidation. Peroxides are toxic and can give rise to mixtures which are explosive when distilled. Technical assistants test ether to ensure that the level of peroxide is within acceptable limits. The test is done by shaking ether with a solution of potassium iodide. After standing for 30 minutes in the dark the yellow colour of the aqueous phase, due to the liberation of iodine, must not be more intense than a prepared standard solution. These tests ensure the quality and safety of the ether.</p> <p>Food processing</p> <p>A snack food company produces a range of high quality, impulse purchase snack foods. Some of these products are moisture and/or oxygen sensitive and are therefore packaged in multi-layer flexible packaging to provide optimum shelflife. The packaging must also be able to withstand the rigours of the production and distribution process. While the packaging is purchased to meet the shelflife and distribution specifications, the quality</p>

EVIDENCE GUIDE

assurance program requires the periodic evaluation of the packaging materials against these specifications. A laboratory assistant uses standard methods to test the tearing resistance, bursting strength, impact resistance and permeability and/or leakage of the snack food packaging. Tests are also conducted on aspects of the manufacturing process that can affect shelflife. These tests involve the measuring of the heat-seam strength and the sealing performance of the closure process. The test results are recorded by the laboratory assistant to verify the conformance of the materials to the supplier specifications and of the process to the manufacturing specifications. The assistant reports any anomalies or non-conformances to the appropriate personnel.

Construction materials testing

A technician performs an Aggregate Stripping Test (AS 1141.50) and enters the results in the laboratory's information management system (LIMS). The resulting 20-30% stripped values (i.e. 70-80% adhering) indicate a 'fail' result. The technician notes that he has repeated the test and obtained the same 'fail' result. The laboratory manager reviews the results and asks the technician to explain how he performed the test. He describes how he prepared 3-4 mm thick plates of bitumen and binding agent in the mould and then placed 50 small clean pieces of aggregate on top. After treatment in an oven for 24 hours and a 50°C water bath in accordance with the test method, the technician had then carefully pulled out the pieces of aggregate and avoiding any twisting motion. He then estimated the % of bitumen adhering to each of the stones with the expectation that the stripped value would be about 5% (i.e. 95% adhering). The manager is satisfied that the technician has performed the test in accordance with the method and suggested that he now re-run the test with a known aggregate as a control. This test gives a stripped value of 5-7% (i.e. 93-95% adhering). The manager is now sufficiently confident of the laboratory's results to sign and issue the test report and explain the aggregate's 'test failure' to the client.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
- Australian code of good manufacturing practice for medicinal products (GMP)
- calibration and maintenance schedules
- enterprise recording and reporting procedures
- equipment manuals
- equipment startup, operation and shutdown procedures
- MSDS and safety procedures
- material, production and product specifications
- national measurement regulations and guidelines
- principles of good laboratory practice (GLP)
- production and laboratory schedules
- quality manuals
- standard operating procedures (SOPs)

Concepts of metrology

Concepts of metrology may include:

- that all measurements are estimates
- measurements belong to a population of measurements of the measured parameters

RANGE STATEMENT	
	<ul style="list-style-type: none"> • repeatability • precision • accuracy • significant figures • sources of error • uncertainty • traceability
Preparation of samples	<p>Preparation of samples may include:</p> <ul style="list-style-type: none"> • sub-sampling or splitting using procedures, such as riffing, coning and quartering, manual and mechanical splitters • diluting samples • physical treatments, such as ashing, dissolving, filtration, sieving, centrifugation and comminution • moulding, casting or cutting specimens
Typical tests carried out by laboratory/field assistants	<p>Typical tests carried out by laboratory/field assistants may include:</p> <ul style="list-style-type: none"> • visual/optical tests of appearance, colour, texture, identity, turbidity, refractive index (alcohol content and Baume/Brix) • physical tests: <ul style="list-style-type: none"> • density, specific gravity and compacted density • moisture content and water activity • particle size, particle shape and size distribution • chemical tests: <ul style="list-style-type: none"> • gravimetric • colorimetric • electrical conductivity (EC) and pH • specific ions using dipsticks and kits • nutrients (e.g. nitrates and orthophosphates) using basic kits • ashes, including sulphated ashes • biological/environmental tests: <ul style="list-style-type: none"> • pH, oxygen reduction potential (ORP), dissolved oxygen (DO) and (EC) • E coli using test kits

RANGE STATEMENT	
	<ul style="list-style-type: none"> • surface hygiene/presence of microbes • packaging tests: <ul style="list-style-type: none"> • tearing resistance, bursting strength and impact resistance • permeability and/or leakage • mechanical tests: <ul style="list-style-type: none"> • Emerson class • concrete slump
Measurements	<p>Measurements may include:</p> <ul style="list-style-type: none"> • simple ground surveys • meteorological parameters, such as wind direction/strength, rainfall, maximum/minimum temperature, humidity and solar radiation • simple background radiation survey • production/process parameters, such as temperature, flow and pressure • gas levels in a confined space
Common measuring equipment	<p>Common measuring equipment may include:</p> <ul style="list-style-type: none"> • dimension apparatus • DO and EC • analogue and digital meters and charts/recorders • basic chemical and biological test kits • dipsticks and site test kits (e.g. HACK) • timing devices • temperature measuring devices, such as thermometers and thermocouples
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • electric shock • biohazards, such as microbiological organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids • solar radiation, dust and noise • chemicals, such as sulphuric acid, fluorides and hydrocarbons • aerosols • sharps, broken glassware and hand tools

RANGE STATEMENT	
	<ul style="list-style-type: none"> • flammable liquids • dry ice and liquid nitrogen • fluids under pressure • sources of ignition • occupational overuse syndrome, slips, trips and falls • manual handling, working at heights and working in confined spaces • crushing, entanglement and cuts associated with moving machinery or falling objects
Enterprise controls to address hazards	<p>Enterprise controls to address hazards may include:</p> <ul style="list-style-type: none"> • use of MSDS • use of signage, barriers and service isolation tags • use of personal protective equipment, such as hard hats, hearing protection, sunscreen lotion, gloves, safety glasses, goggles, face guards, coveralls, gowns, body suits, respirators and safety boots • use of appropriate equipment, such as biohazard containers and cabinets and laminar flow cabinets • recognising and observing hazard warnings and safety signs • labelling of samples, reagents, aliquoted samples and hazardous materials • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions, and enterprise procedures and regulations • cleaning and decontaminating equipment and work areas regularly using recommended procedures • following established manual handling procedures for tasks involving manual handling
Minimising environmental impacts	<p>Minimising environmental impacts may involve:</p> <ul style="list-style-type: none"> • recycling of non-hazardous waste, such as chemicals, batteries, plastic, metals and glass • appropriate disposal of hazardous waste • correct disposal of excess sample/test material • correct storage and handling of hazardous

RANGE STATEMENT	
	chemicals
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units	

MSL973004A Perform aseptic techniques

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to perform aseptic techniques to maintain the integrity of both the sample source and the sample. It applies to sampling techniques in tissue culture and to generic microbiological procedures.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory assistants and technicians working in the field or laboratory in the biomedical, biological, food processing and environmental industry sectors.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for aseptic sampling or transfer	1.1. Ensure that any sampling procedure conforms with the requirements of the sampling plan 1.2. Use specified personal protective clothing and equipment 1.3. Prepare the work area for safe and effective sample transfer 1.4. Select equipment and materials specified by the procedure 1.5. Organise equipment to minimise contamination during manipulations 1.6. Label containers for clear identification 1.7. Record details in relevant log or database
2. Transfer materials aseptically	2.1. Protect the integrity of the sample source by sterilising the sampling site and the mouth of transport or culture vessel 2.2. Sterilise inoculating loops and/or pipette where used to prevent contamination 2.3. Perform transfer while minimising opportunities for contamination and cross-infection 2.4. After transfer, and before sealing the transport or culture vessel, flame the vessel mouth to maintain sterility 2.5. Re-sterilise inoculating loops, minimising the generation of aerosols 2.6. Perform quality control checks, if required 2.7. Label transport or culture vessels for clear identification
3. Maintain work area and equipment to prevent cross-infection and contamination	3.1. Place disposable and reusable items into relevant receptacles 3.2. Clean and disinfect work area and equipment after use 3.3. Transport disposable and reusable contaminated materials to relevant areas for disinfection, sterilisation and cleaning or disposal

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- sterilising equipment such as flasks, loops and pipettes
- handling of laboratory equipment and glassware to prevent contamination
- streak plating of inoculations
- sampling transfers
- labelling and storing culture media according to enterprise procedures
- recording data accurately
- reporting non-compliance, anomalies or outofspecification results
- sorting, collecting, treating, recycling or disposing of waste
- following enterprise procedures consistently
- using appropriate personal protective equipment

Required knowledge

Required knowledge includes:

- the relationship between sterile practices, hygiene procedures and the ability to obtain growth free of contamination
- cleaning and sanitising requirements of equipment and work area and effects of physical and chemical agents on microbial growth and death
- principles of infection control related to occupational health and safety (OHS), sampling and transfer of materials in microbiological investigations
- disinfection and sterilisation procedures used in the collection, processing and safe disposal of samples and materials
- importance of pure culture techniques and aseptic transfer to the successful microbiological investigation and correct interpretation of laboratory results
- growth requirements of micro-organisms (bacteria, fungi, protozoans, viruses and multi-cellular parasites) in terms of their laboratory culture
- relevant health, safety and environment requirements

Specific industry

Additional knowledge requirements may apply for different industry sectors. For example:

Food processing:

- food spoilage symptoms
- food safety principles
- beneficial/detrimental organisms relevant to specific food industry sector

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>In particular, assessors should look to see that the candidate:</p> <ul style="list-style-type: none"> • follows established laboratory procedures, including recording of samples, operation of equipment and cleaning/decontamination • prevents cross-contamination of sample source and sample • manipulates equipment to prevent contamination of culture medium during transfer • sterilises equipment as required to prevent cross-contamination of work area, personnel and environment.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL943002A Participate in laboratory/field workplace safety</i> • <i>MSL973003A Prepare culture media.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory with appropriate equipment and materials • enterprise procedures and standard methods • MSDS.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of quality assurance results and examination of samples transferred by the candidate • observation of the candidate successfully transferring a range of samples • written and/or oral questioning to assess underpinning knowledge. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess</p>

EVIDENCE GUIDE

	<p>directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Food processing</p> <p>As part of the quality assurance program at an ice-cream manufacturer, six ice-creams were removed from the production line, placed in sterile bags and then stored in a freezer in the microbiology laboratory. Later in the morning, the laboratory assistant removed the samples from the freezer, registered the samples with the date received and test code and signed the register book. She/he then placed the samples in a water bath set at 42(C. While the samples were melting, the laboratory assistant labelled the respective agar plates with the registered codes. Using aseptic techniques she/he carefully transferred 1ml of ice-cream mix into the total plate count agar. The plates were then placed in the incubator. The final results were noted and recorded.</p> <p>Biomedical</p> <p>In preparation for antibiotic sensitivity testing and biochemical identification of presumed pathogenic bacteria, a technical assistant was asked to prepare a sterile peptone suspension of a lactose fermenting colony. The colony had been previously identified by the supervisor on a MacConkey's agar plate. The assistant labelled a 5mL tube of peptone broth with the sample number and a code for the identified colony and then donned a pair of disposable gloves. Bringing the labelled tube and the MacConkey's plate near to the Bunsen, she/he took an inoculating loop and sterilised it in the</p>

EVIDENCE GUIDE

incandescent flame. She/he carefully cooled the loop in a sterile area of the agar and gently scraped off half the colony. With the other hand, and in the vicinity of the heated air of the Bunsen, she/he removed the cover of the peptone tube in her/his crooked finger. In a continuous and coordinated way she/he flamed the lip of the tube and emulsified the colony in the broth. She/he then flamed the lip of the tube and replaced its cover. Finally, the technical assistant re-sterilised the inoculating loop by introducing and holding it in the Bunsen flame to minimise the generation of bacterial aerosols.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS 2982.1:1997 Laboratory design and construction - General requirements
 - AS/NZS 4187:2003 Cleaning, disinfecting and sterilising reusable medical and surgical instruments and equipment and maintenance of associated environments in health care facilities
 - AS/NZS ISO 14000 Set:2005 Environmental management standards set
- HB 9-1994 Occupational personal protection
- Australia New Zealand Food Standards (ANZFS) Code
- Australian code of good manufacturing practice for medicinal products (GMP)
- Australian Dangerous Goods Code
- client and product specifications
- manufacturer's instructions or verbal direction from laboratory manager, supervisor or senior technician
- material safety data sheets (MSDS)
- National Code of Practice for the labelling of workplace substances [NOHSC:2012 (1994)]
- National Health and Medical Research Council (NHMRC) Guidelines
- OHS national standards and codes of practice

RANGE STATEMENT	
	<ul style="list-style-type: none"> • operation and maintenance manuals for automated media preparation equipment • principles of good laboratory practice (GLP) • production schedules and instructions • standard operating procedures (SOPs)
Personal protective equipment	<p>Personal protective equipment may include:</p> <ul style="list-style-type: none"> • gloves, safety glasses, goggles, face guards, coveralls, gowns, body suits and respirators • biohazard containers and laminar flow cabinets
Sample pot and transfer media and the subculturing and/or passaging of culture	<p>Sample pot and transfer media and the subculturing and/or passaging of culture to:</p> <ul style="list-style-type: none"> • sterile broth • media for isolation of colony • tissue culture media • media for continuous culture systems
Samples	<p>Samples may include:</p> <ul style="list-style-type: none"> • body fluids and liquids • water and soil • sterile pharmaceuticals • yeasts and moulds • milk and yoghurt • swabs and smears • propagation tissue • plant material • fermented foods and beverages
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • transfer equipment, such as inoculating loops, pipettes (quantitative and qualitative), flasks, tubes and spatulas • Bunsen burners and bench incinerators • anaerobic jars • incubators, water baths, refrigerators, freezers and possibly dry ice and liquid nitrogen cylinders • laminar flow units and biohazard cabinets • autoclave or pressure cooker • swabs • continuous culture systems

RANGE STATEMENT	
The range of material	<p>The range of material may involve:</p> <ul style="list-style-type: none"> • solid and/or liquid media • supplied media, such as media manufactured in the enterprise or raw material supplies for media • disinfecting and sterilising agents and materials, such as methylated spirits, ethanol and ether • disposable equipment and clothing • tissue culture media • growth media in broths, plates, deeps or slopes • receptacles for safe disposal of wastes and for processing of reusable materials • bar coding material and labels
Sterilisation techniques	<p>Sterilisation techniques may include:</p> <ul style="list-style-type: none"> • autoclaving • flaming • steam and membrane filtration • boiling • microwaving • radiation • high temperature • high pressure steam • gas and chemical treatments
Quality control checks	<p>Quality control checks may include:</p> <ul style="list-style-type: none"> • streaking out of cultures to a single colony • lawn cultures
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • accessing the sample from difficult or dangerous areas • dry ice and liquid nitrogen vapour • ultraviolet (UV) light sources • heat from Bunsen burners • molten agar • sharps • hazardous substances and/or infectious agents
Workplace information	<p>Workplace information may include:</p> <ul style="list-style-type: none"> • SOPs

RANGE STATEMENT	
	<ul style="list-style-type: none"> • specifications for safe waste disposal of bio-hazardous materials • production schedules and instructions • work notes • MSDS • manufacturer's instructions • verbal instructions from laboratory manager, supervisor or senior technician • guidelines for small scale genetic manipulation work
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL973007A Perform microscopic examination

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to set up a light microscope for optimum resolution, to prepare routine samples and to observe, identify and report sample characteristics.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory or technical assistants in all industry sectors. The unit of competency covers limited interpretation and analysis of results. Troubleshooting of equipment and procedures is not required.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret test requirements	1.1. Review test request to identify samples to be tested, test method and equipment involved 1.2. Identify hazards associated with the sample, preparation methods and equipment and implement enterprise control measures
2. Set up work area for preparation and examination of samples	2.1. Collect equipment and arrange the workspace so that equipment can be used safely and efficiently 2.2. Perform pre-use and safety checks to ensure equipment is fit for purpose and report faulty or unsafe equipment to appropriate personnel
3. Prepare samples for examination	3.1. Log and label samples according to enterprise procedures to ensure traceability 3.2. Check suitability of the original and prepared sample for the examination and report unsuitable samples to appropriate personnel 3.3. Prepare and store the sample for examination following enterprise methods
4. Set up and use a light microscope	4.1. Set up the light path to optimise resolution 4.2. Select the appropriate objectives and filter for the sample being examined 4.3. Ensure that the lenses are clean 4.4. Adjust settings and alignment of the light path to optimise performance 4.5. Place sample correctly on the stage
5. Observe, identify and report sample characteristics	5.1. Recognise and identify significant sample characteristics 5.2. Perform required calculations accurately 5.3. Prepare and view control samples and check that results are consistent with expected values 5.4. Identify and report out of specification or atypical results promptly to appropriate personnel 5.5. Record and report data in accordance with enterprise procedures
6. Maintain a safe work environment	6.1. Ensure safety and minimise cross-contamination through the use of personal protective clothing and safety equipment 6.2. Handle all samples and equipment in accordance with enterprise safety protocols 6.3. Clean up spills using appropriate techniques to

ELEMENT	PERFORMANCE CRITERIA
	protect personnel, work area and environment 6.4. Minimise generation of waste and environmental impacts 6.5. Collect and dispose of all wastes safely 6.6. Report hazards and incidents to designated personnel using enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- setting up the workbench and microscope ergonomically
- setting up, cleaning and using a light microscope to achieve optimum resolution of the specimen
- using personal protective clothing and other safety equipment correctly
- performing counts on samples
- performing basic measurements using grids
- logging and tracking samples through all steps from receiving a sample through to completion of a procedure and reporting
- interpreting and recording test results, including simple calculations
- correctly handling and storing samples and equipment

Required knowledge

Required knowledge includes:

- parts and functions of a light microscope
- importance and appropriate use of controls and certified reference materials
- hazards and risks in laboratories associated with performing microscopic examination
- enterprise and/or legal traceability requirements
- relevant health, safety and environment requirements

Specific industry

Additional knowledge requirements may apply for different industry sectors. For example:

Biological industry:

- basic structure and function of cells and organelles
- basic classes and classification of organisms of organisms, such as prokaryotes, eukaryotes, plants, animals, bacteria, viruses and prions
- cell physiology and processes, such as simple and facilitated diffusion, plasmolysis, osmosis, tonicity, active transport, energy production, mitosis, motility, phagocytosis and pinocytosis
- purposes and mechanisms of staining (e.g. Gram +ve and -ve)

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • follow enterprise standards, procedures and practices • prepare suitable samples • recognise, identify and document significant sample characteristics • set up a light microscope for optimal resolution • maintain personal safety and that of others • minimise cross-contamination and contamination of the laboratory and environment.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL922001A Record and present data</i> • <i>MSL933002A Contribute to the achievement of quality objectives</i> • <i>MSL943002A Participate in laboratory/field workplace safety</i> • <i>MSL953001A Receive and prepare samples for testing.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with appropriate equipment, such as light microscopes and samples • enterprise procedures, standard methods and materials.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • observation of the candidate performing microscopic examinations • review of data records prepared by the candidate, such as counts, observations and results • feedback from supervisors and peers about adherence to enterprise/technical procedures • questioning to assess underpinning knowledge.

EVIDENCE GUIDE

	<p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting.</p> <p>Construction materials testing</p> <p>The supply of river sand is running out and quarries are accessing alternative sources of sand for use in concrete mixes in construction. The sand should not be an aggregate that is likely to break down into smaller particles. A technician in a quarry company is required to analyse samples of crushed rock using a light microscope. The technician looks for characteristics of the sample, such as angularities, roundness, sharpness, cracks, presence of organic matter, mineral structure and whether the particles are a conglomerate. If the sample does not meet the characteristics, the company will need to treat it to make it suitable for use in concrete mixes (for example by washing, crushing and sieving).</p> <p>Food processing</p> <p>A customer complaint is received about the baking properties of a flour delivery. The laboratory assistant at the flour mill is given the task of testing the starch content of the suspect flour. He/she prepares iodine stained samples of the returned flour and a range of baked and partially baked products prepared from it. First, the assistant makes up fresh iodine staining solution and then prepares slides of each sample for microscopic examination. He/she identifies the</p>

EVIDENCE GUIDE

characteristic starch granules of the flour sample and records the degree of gelatinisation in the starch granules in the baked samples. He/she discusses the results with the supervisor and prepares a report for the customer.

Biomedical

A laboratory assistant works in the microbiology laboratory of a public hospital and is responsible for preparing and staining sputum smears from patients for micro and culture. The assistant puts on a clean gown and gloves before collecting the specimens from the reception area of the laboratory. The assistant prepares cultures of the sputum specimens on simple and selective media before preparing, fixing and staining smears for microscopic examination. The results are checked by the supervisor, entered into the laboratory information management system (LIMS) and sent to the appropriate section of the hospital.

Environmental

A laboratory assistant prepares media for plant tissue culture. There has been some contamination of Gram-positive bacteria in the last two batches and the supervisor has initiated an overhaul of the preparation and aliquotting procedure. The laboratory assistant has been asked to follow the new procedure exactly and to remove samples at each stage of ingredient addition for microscopic examination. The laboratory assistant records the exact addition amounts, batch numbers and brands of the reagents, the location of the addition (which biohazard cabinet), the equipment used and the pre-sterilisation records of all equipment.

The laboratory assistant then prepares slides, fixes them and performs a Gram stain on each of the aliquots removed from the new preparation run. Microscopic analysis of each aliquot reveals nil contamination. The supervisor decides that there has been a breach in the old procedure and the laboratory assistant is asked to follow the new procedure and to perform a routine microscopic check on all batches for the next month.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
 - AS/NZS 2243 Set:2006 Safety in laboratories set
- principles of good laboratory practice (GLP)
- Australian code of good manufacturing practice for medicinal products (GMP)
- safety manuals
- quality manuals and equipment and procedure manuals
- standard operating procedures (SOPs)
- material safety data sheets (MSDS)
- enterprise recording and reporting procedures
- production and laboratory schedules
- material, production and product specifications

Preparation of samples

Preparation of samples may include:

- aseptic transfer of specimen
- centrifugation
- cooling
- drying
- filling a counting chamber in one continuous flow without bubbles or overflow
- filtration

RANGE STATEMENT	
	<ul style="list-style-type: none"> • fixing of films to minimise cell damage and the production of artefacts • labelling • mounting of stained films, sections and whole mounts to ensure long term preservation • permanent labels for smears, films and sections for presentation, storage and retrieval • physical or chemical separation • selection of diluent to preserve or enhance visibility of the cells to be counted • selection, filling and cover slipping of a clean, dry counting chamber to ensure even distribution of cells during filling • serial dilution to enable individual cells to be reliably counted • staining of fixed material to illustrate required characteristics • sub-sampling • thin film or smear on a slide
Checking sample condition	<p>Checking sample condition may include:</p> <ul style="list-style-type: none"> • labelling • spillage • spoilage due to incorrect storage and transport conditions • temperature control • suitability for the examination
Pre-use checks	<p>Pre-use checks may include:</p> <ul style="list-style-type: none"> • calibration • cleaning/checking use by dates of reagents • routine maintenance
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • glass slides • counting chambers (e.g. haemocytometer) • optical graticules and stage micrometers • tissue culture flasks
Light microscopes	<p>Light microscopes may include:</p> <ul style="list-style-type: none"> • bright field illumination microscopic examination up to 1000x magnification • stereomicroscopes and dissection microscopes

RANGE STATEMENT	
	<ul style="list-style-type: none"> • compound microscopes • phase contrast microscopes • inverted microscopes
Biological samples	<p>Biological samples may include:</p> <ul style="list-style-type: none"> • smears, impression smears, sections, squashes, films and whole mounts • a monolayer of cells in smears and films • fixed smears for demonstration of bacteria by the methylene blue and Gram staining techniques • blood films stained by a Romanowsky technique to clearly show differentiation of granulocytes • stained sections of animal tissues using regressive haematoxylin and eosin to differentiate cytoplasmic and nuclear detail • differentially stained monocotyledon and dicotyledon stem sections to demonstrate the structure of vascular bundles (xylem, phloem and cambium) • stained whole mounts of helminths • whole mounts, such as liver flukes, planaria and samples of animal faeces to demonstrate ova, cysts and larvae • pond water organisms • onion root tip squash • midstream sample of urine
Physical samples	<p>Physical samples may include:</p> <ul style="list-style-type: none"> • sand • asbestos fibres • coal samples • construction testing materials • geological specimens
Checking prepared samples	<p>Checking prepared samples may include looking for:</p> <ul style="list-style-type: none"> • clean and scratch-free microscope slides to reduce artefacts • preparation according to SOPs • a homogeneous suspension of sample • films and smears that have been fixed rapidly

RANGE STATEMENT	
	<ul style="list-style-type: none"> • thin films with a monolayer of cells • appropriate whole mounts for intact organisms • correct sample identification during and after processing
Sample characteristics	<p>Sample characteristics are restricted to what can be viewed by bright light microscopy and may include:</p> <ul style="list-style-type: none"> • shape and size of particles • presence of contamination • colour • consistency and variability • number of cells (e.g. cells in blood or other particulate samples, such as a yeast suspension or pollen grains) • type of cells, percentage of atypical cells, presence/absence of cells, size of cells, viable and non-viable cells and trajectory • presence of stained material, such as starch • colour/staining and morphology • motility
Calculations	<p>Calculations may include:</p> <ul style="list-style-type: none"> • dilutions • percentage viability • number of cells in original sample after dilution • calculation of cells/ml in a number of squares of a counting chamber
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • micro-organisms and agents associated with soil, air, water, blood and blood products and human or animal tissue and fluids • chemicals and stains • sharps and broken glassware • aerosols
Safety practices and personal protective equipment	<p>Safety practices and personal protective equipment may include:</p> <ul style="list-style-type: none"> • use of MSDS • use of personal protective equipment, such as safety glasses, gloves and coveralls

RANGE STATEMENT	
	<ul style="list-style-type: none"> • use of biohazard containers and laminar flow cabinet • correct labelling of reagents and hazardous materials • handling and storing hazardous materials and equipment in accordance with labels, MSDS and manufacturer's instructions • ergonomic layout, correct illumination and organisation of workbench • regular cleaning and/or decontamination of equipment and work areas
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL974003A Perform chemical tests and procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to interpret chemical test requirements, prepare samples, conduct pre-use and calibration checks on equipment and perform routine chemical tests/procedures. These tests will involve several measurement steps. The unit includes data processing and interpretation of results and tracking of obvious test malfunctions where the procedure is standardised. However, personnel are not required to analyse data, optimise tests/procedures for specific samples or troubleshoot equipment problems where the solution is not apparent.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory or technical assistants and instrument operators in all industry sectors.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret and schedule test requirements	1.1. Review test request to identify samples to be tested, test method and equipment/instruments involved 1.2. Identify hazards and enterprise control measures associated with the sample, preparation/test methods, reagents and/or equipment 1.3. Plan work sequences to optimise throughput of multiple samples, if appropriate
2. Receive and prepare samples	2.1. Log samples using standard operating procedures (SOPs) 2.2. Record sample description, compare with specification and note and report discrepancies 2.3. Prepare samples and standards in accordance with chemical testing requirements 2.4. Ensure traceability of samples from receipt to reporting of results
3. Check equipment before use	3.1. Set up equipment/instruments in accordance with test method requirements 3.2. Perform pre-use and safety checks in accordance with relevant enterprise and operating procedures 3.3. Identify faulty or unsafe components and equipment and report to appropriate personnel 3.4. Check equipment calibration using specified standards and procedures, if applicable 3.5. Quarantine out of calibration equipment/instruments 3.6. Ensure reagents required for the test are available and meet quality requirements
4. Test samples to determine chemical species or properties	4.1. Operate equipment/instruments in accordance with test method requirements 4.2. Perform tests/procedures on all samples and standards, if appropriate, in accordance with specified methods 4.3. Shut down equipment/instruments in accordance with operating procedures
5. Process and interpret data	5.1. Record test data noting atypical observations 5.2. Construct calibration graphs, if appropriate, and compute results for all samples from these graphs 5.3. Ensure calculated values are consistent with expectations 5.4. Record and report results in accordance with

ELEMENT	PERFORMANCE CRITERIA
	<p>enterprise procedures</p> <p>5.5. Estimate and document uncertainty of measurement in accordance with enterprise procedures, if required</p> <p>5.6. Interpret trends in data and/or results and report out of specification or atypical results promptly to appropriate personnel</p> <p>5.7. Determine if obvious procedure or equipment problems have led to atypical data or results</p>
6. Maintain a safe work environment	<p>6.1. Use established safe work practices and personal protective equipment to ensure personal safety and that of other laboratory personnel</p> <p>6.2. Minimise the generation of wastes and environmental impacts</p> <p>6.3. Ensure the safe collection of laboratory and hazardous waste for subsequent disposal</p> <p>6.4. Care for and store equipment and reagents as required</p>
7. Maintain laboratory records	<p>7.1. Enter approved data into laboratory information management system</p> <p>7.2. Maintain confidentiality and security of enterprise information and laboratory data</p> <p>7.3. Maintain equipment and calibration logs in accordance with enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting test methods and procedures
- sample preparation procedures
- performing calibration checks
- using instruments for qualitative and/or quantitative analysis
- maintaining and evaluating reagents
- troubleshooting basic equipment/method
- using calculation methods, including appropriate units, uncertainties, balancing equations, and the concentration of the solution given the chemical reaction for the titration
- preparing calibration graphs and calculating results using appropriate units and precision
- applying theoretical knowledge to interpret gross features of data and make relevant conclusions such as identifying atypical results as out of normal range or an artefact
- tracing and sourcing obvious causes of an artefact
- recording and communicating results in accordance with enterprise procedures
- maintaining security, integrity, traceability of samples, sub-samples, test data, results and documentation

Required knowledge

Required knowledge includes:

- chemical principles and concepts underpinning test/procedure
- purpose of the tests
- concepts of metrology
- principles and concepts related to equipment/instrument operation and testing
- function of key components of the equipment/instrument and/or reagents
- effects of modifying equipment/instrument variables
- use of calibration procedures
- enterprise and/or legal traceability requirements
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • interpret test methods/procedures accurately • prepare and test samples using procedures appropriate to the nature of sample • perform calibration checks (if required) • safely operate test equipment/instruments to enterprise standards and/or manufacturer's specification • prepare calibration graphs and calculate results using appropriate units and precision • apply basic theoretical knowledge to interpret gross features of data and make relevant conclusions • identify atypical results as out of normal range or an artefact • traces and source obvious causes of an artefact • communicate problems to a supervisor or outside service technician • record and communicate results in accordance with enterprise procedures • maintain security, integrity, traceability of samples, sub-samples, test data and results and documentation.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL924001A Process and interpret data</i> • <i>MSL974001A Prepare, standardise and use solutions.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with appropriate test equipment/instruments, standards and reagents • enterprise procedures and standard methods.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of test data/results obtained by the candidate

EVIDENCE GUIDE

	<p>over a period of time to check accuracy, consistency and timeliness of results</p> <ul style="list-style-type: none"> • review of test records and workplace documentation completed by the candidate • observation of candidate conducting a range of chemical tests and procedures and sample preparation • feedback from peers and supervisors • oral or written questioning of chemical principles and concepts, test methods and enterprise procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
<p>This competency in practice</p>	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>Ultraviolet spectroscopy is a suitable method for determining the concentration of sulphanilamide in pharmaceutical preparations. The ultraviolet absorption spectrum is pH dependent, with the wavelength maximum different in acid and alkaline solutions.</p> <p>Example: a technician was conducting an analysis and noted that the wavelength maxima had moved from approximately 250nm to below 230nm. After reviewing the procedure being used and checking for possible errors, the technician found that an incorrect solvent had been used for the analysis. The hydrochloric acid solvent was replaced with sodium hydroxide, as per the standard method, and the correct absorption spectrum was obtained.</p>

EVIDENCE GUIDE**Environmental**

A technician was asked to test water samples from a local lake over several days to determine the lake's nutrient levels following reports of algal blooms in the lake over the preceding weeks. He/she used a field colorimeter kit to determine both nitrates and orthophosphates using SOPs. Because the same colorimetric cells were used for the nitrate and orthophosphate tests, they were carefully washed and rinsed with distilled water between all tests (as specified in the SOP). After reviewing the results from the first three days, the technician noted that the first orthophosphate result, which was done immediately after all the nitrate tests, was much higher than subsequent orthophosphate tests which were all consistently low. The technician argued that the 'high' results for the first orthophosphate test may be due to cross-contamination from trace amounts of reagents used in previous nitrate tests despite having closely followed the cleaning/rinsing SOPs. After discussion with his/her supervisor, the technician modified the field procedures by using totally different colorimetric cells for the nitrate and orthophosphate tests. For all subsequent tests no 'high' orthophosphate results were obtained for the first sample. As a result, the laboratory supervisor amended the SOPs to incorporate this new requirement.

Food processing

Regular checks are conducted on the percentage of salt in cheese at a dairy company's laboratory. A technician checks the results from the automatic salt-titration equipment and, if the results are abnormal, notifies the supervisor before taking appropriate action. After obtaining a high result, for example, the assistant notified the supervisor and then began checking the machine to identify a possible reason for the high reading. He/she found that the supply bottle of silver nitrate used in the test was almost empty. This had resulted in less solution being pumped through the equipment than required, leading to graph readings that indicated a high percentage of salt. After replacing the silver nitrate bottle and recalibrating the equipment, the assistant retested the cheese samples and found that they contained the expected 1-2% salt.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS 2134.1-1999 Recommended practice for chemical analysis by atomic absorption spectrometry - Flame atomic absorption spectrometry
 - AS 2162.1-1996 Verification and use of volumetric apparatus - General - Volumetric glassware
 - AS 3753-2001 Recommended practice for chemical analysis by ultraviolet/visible spectrophotometry
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
- Australian code of good manufacturing practice for medicinal products (GMP)
- calibration and maintenance schedules
- enterprise recording and reporting procedures
- equipment manuals
- equipment startup, operation and shutdown procedures
- industry methods, such as Royal Australian

RANGE STATEMENT	
	<p>Chemical Institute (RACI) and/or American Association of Cereal Chemists (AACC) methods for inorganic constituents</p> <ul style="list-style-type: none"> • material safety data sheets (MSDS) and safety procedures • material, production and product specifications • national measurement regulations and guidelines • principles of good laboratory practice (GLP) • production and laboratory schedules • quality manuals and equipment and procedure manuals • SOPs • waste minimisation and safe disposal procedures
Sample preparation processes	<p>Sample preparation processes may include:</p> <ul style="list-style-type: none"> • grinding • mulling • preparation of discs • digestion • dissolving • ashing • refluxing • tracting • filtration • evaporation • flocculation • precipitation • washing • drying • centrifugation
Non-instrumental test/procedures	<p>Non-instrumental test/procedures may include:</p> <ul style="list-style-type: none"> • gravimetric analysis: <ul style="list-style-type: none"> • loss on drying • suspended solids • ashes, such as sulphated and gravimetric assays (e.g. sulphates and nitrogen in fertilisers) • Ni by dimethylglyoxime • bitumen content of asphaltic concrete

RANGE STATEMENT	
	<ul style="list-style-type: none"> • titrimetric analysis: <ul style="list-style-type: none"> • acid/base determinations • compleximetric, such as water hardness, Fe by dichromate and binder content analysis • redox, such as precipitation of chlorides in water • dissolved oxygen (DO), chemical oxygen demand (COD) and biochemical oxygen demand (BOD) • filtration, separation and solvent extraction techniques • corrosion testing, cement content and accelerated weathering
Instrumental tests	<p>Instrumental tests may include:</p> <ul style="list-style-type: none"> • spectrometry • chromatography • electrochemistry
Types of instrumentation and instrumental techniques	<p>Types of instrumentation and instrumental techniques may include:</p> <ul style="list-style-type: none"> • colorimetric techniques, such as enzyme activity, chlorine in water, specific cations and anions • infrared, ultraviolet-visible (UV-VIS) spectrophotometry • other spectrometric techniques: <ul style="list-style-type: none"> • fluorimetric analysis, flame atomic emission and flame atomic absorption spectrometry • fourier transform infrared • chromatographic techniques: <ul style="list-style-type: none"> • column and thin layer analytical and preparative chromatography • gas or liquid chromatography for purity, raw material and formulation checks • ion chromatography for detection of nitrates, phosphates, sulphates, chlorides and bromides • gel filtration chromatography for purification of proteins

RANGE STATEMENT	
	<ul style="list-style-type: none"> • electrochemical techniques, such as pH, eH, conductivity and ion-selective electrodes • electrophoretic techniques for DNA patterns and determination of protein purity • soil testing: <ul style="list-style-type: none"> • moisture content • organic matter content • specific anions and cations • auto-analysers for determination of total P, total Kjeldahl N, orthophosphate, nitrite/nitrate and ammonia
Chemical principles and concepts	<p>Chemical principles and concepts may include:</p> <ul style="list-style-type: none"> • ions, atoms, molecules, bonding and links to chemical properties • chemical reactions involving acid/base, redox, complex ion formation, solubility and equilibrium • energy levels and absorption/emission spectra
Chemical tests methods	<p>Chemical tests methods may include:</p> <ul style="list-style-type: none"> • control of starting materials, in-process materials and finished products • environmental monitoring • basic troubleshooting and/or problem solving within the scope of SOPs and enterprise processes
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • chemicals: <ul style="list-style-type: none"> • acids (e.g. sulphuric, perchloric and hydrofluoric) • heavy metals and pesticides • anions (e.g. fluoride) • hydrocarbons (e.g. mono-aromatics) • aerosols from broken centrifuge tubes, pipetting • sharps and broken glassware • flammable liquids and gases • cryogenics, such as dry ice and liquid nitrogen • fluids under pressure, such as hydrogen in gas liquid chromatography, acetylene in atomic

RANGE STATEMENT	
	<p>absorption spectrometry</p> <ul style="list-style-type: none"> • sources of ignition • high-temperature ashing processes • disturbance or interruption of services
Hazard control measures:	<p>Hazard control measures may include:</p> <ul style="list-style-type: none"> • ensuring access to service shut-off points • recognising and observing hazard warnings and safety signs • labelling of samples, reagents, aliquoted samples and hazardous materials • handling and storage of hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions • identifying and reporting operating problems or equipment malfunctions • cleaning and decontaminating equipment and work areas regularly using enterprise procedures • using personal protective clothing and equipment, such as gloves, safety glasses and coveralls • using containment facilities (PCII, PCIII and PCIV physical containment laboratories), containment equipment (biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets) and containment procedures • reporting abnormal emissions, discharges and airborne contaminants, such as noise, light, solids, liquids, water/waste water, gases, smoke, vapour, fumes, odour and particulates to appropriate personnel
Records	<p>Records may include:</p> <ul style="list-style-type: none"> • test and calibration results • equipment use, maintenance and servicing history • faulty or unsafe equipment
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management

RANGE STATEMENT

	<p>requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time</p> <ul style="list-style-type: none"> • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health
--	--

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL974004A Perform food tests

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to interpret food test requirements, prepare samples, conduct pre-use and calibration checks on equipment and perform routine testing of raw food materials, in-process materials and final products. These tests will involve several measurement steps. The unit includes data processing and some interpretation of results and tracking of obvious test malfunctions where the procedure is standardised. However, personnel are not required to analyse data, optimise tests/procedures for specific samples or troubleshoot equipment problems where the solution is not apparent.
------------------------	---

Application of the Unit

Application of the unit	This unit of competency is applicable to laboratory or technical assistants and instrument operators working in the food and beverage processing industry sectors. Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret and schedule test requirements	1.1. Review test request to identify samples to be tested, test method and equipment/instruments involved 1.2. Identify hazards and enterprise controls associated with the sample, preparation/test methods, reagents and/or equipment 1.3. Plan parallel work sequences to optimise throughput of multiple sets of samples, if appropriate
2. Receive and prepare food samples	2.1. Log samples using standard operating procedures (SOPs) 2.2. Record sample description, compare with specification and note and report discrepancies 2.3. Prepare samples and standards in accordance with food testing requirements 2.4. Ensure traceability of samples from receipt to reporting of results
3. Check equipment before use	3.1. Set up equipment/instruments in accordance with test method requirements 3.2. Perform pre-use and safety checks in accordance with relevant enterprise and operating procedures 3.3. Identify faulty or unsafe components and equipment and report to appropriate personnel 3.4. Check equipment calibration using specified standards and procedures, if applicable 3.5. Quarantine out of calibration equipment/instruments 3.6. Ensure reagents required for the test are available and meet quality requirements
4. Test samples to determine food components and characteristics	4.1. Operate equipment/instruments in accordance with test method requirements 4.2. Perform tests/procedures on all samples and standards, if appropriate, in accordance with specified methods 4.3. Shut down equipment/instruments in accordance with operating procedures
5. Process data	5.1. Record test data noting atypical observations 5.2. Construct calibration graphs, if appropriate and compute results for all samples from these graphs 5.3. Ensure calculated values are consistent with reference standards and expectations 5.4. Estimate and document uncertainty of measurement

ELEMENT	PERFORMANCE CRITERIA
	<p>in accordance with enterprise procedures, if required</p> <p>5.5. Record and report results in accordance with enterprise procedures</p> <p>5.6. Interpret trends in data and/or results and report out of specification or atypical results promptly to appropriate personnel</p> <p>5.7. Determine if basic procedure or equipment problems have led to atypical data or results</p>
6. Maintain a safe work environment	<p>6.1. Use established safe work practices and personal protective equipment to ensure personal safety and that of other laboratory personnel</p> <p>6.2. Minimise the generation of wastes and environmental impacts</p> <p>6.3. Ensure the safe collection of laboratory and hazardous waste for subsequent disposal</p> <p>6.4. Care for and store equipment and reagents as required</p>
7. Maintain laboratory records	<p>7.1. Enter approved data into laboratory information management system (LIMS)</p> <p>7.2. Maintain confidentiality and security of enterprise information and laboratory data</p> <p>7.3. Maintain equipment and calibration logs in accordance with enterprise procedures</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using instruments for qualitative and/or quantitative analysis
- interpreting test methods and procedures
- sample preparation procedures
- performing calibration checks
- using instruments for qualitative and/or quantitative analysis
- maintaining and evaluating reagents
- troubleshooting basic equipment/method
- calculations to estimate uncertainty and produce results
- preparing calibration graphs and calculating results using appropriate units and precision
- applying theoretical knowledge to interpret gross features of data and make relevant conclusions such as identifying atypical results as out of normal range or an artefact
- tracing and sourcing obvious causes of an artefact
- recording and communicating results in accordance with enterprise procedures
- maintaining security, integrity, traceability of samples, sub-samples, test data, results and documentation

Required knowledge

Required knowledge includes:

- principles and concepts underpinning the test/procedure
- purpose of tests
- metrology techniques underpinning test/procedure including uncertainty
- principles and concepts related to equipment/instrument operation and testing
- function of key components of the equipment/instrument
- effects on the test of modifying equipment/instrument variables
- enterprise and/or legal traceability requirements
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • interpret test methods/procedures accurately • prepare and test samples using procedures appropriate to the nature of sample • perform calibration checks (if required) • safely operate test equipment/instruments to enterprise standards and/or manufacturer's specification • prepare calibration graphs and calculate results using appropriate units and precision • apply basic theoretical knowledge to interpret gross features of data and make relevant conclusions • identify atypical results as out of normal range or an artefact • trace and source obvious causes of an artefact • communicate problems to a supervisor or outside service technician • record and communicate results in accordance with enterprise procedures • maintain security, integrity, traceability of samples, sub-samples, test data/results and documentation.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL924001A Process and interpret data.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with test equipment, instruments, standards and materials • enterprise procedures and standard methods.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of test data/results obtained by the candidate over a period of time to check accuracy, consistency and timeliness of results

EVIDENCE GUIDE

	<ul style="list-style-type: none"> • review of test records and workplace documentation completed by the candidate • observation of candidate conducting a range of food tests and procedures and sample preparation • feedback from peers and supervisors • oral or written questioning of food technology concepts and principles, test methods and enterprise procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case study below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Food processing</p> <p>A technician was required to conduct an analysis of the level of sorbic acid in samples of processed cheese. She/he set up and calibrated the distillation unit while the samples were prepared. The controls and samples were distilled and placed in the spectrometer at 260 nm. Readings were carefully recorded for each sample and control flask. The control sample readings at the beginning and end of the testing period were compared for any variance. The technician worked quickly and excluded light from the reactants as they were light sensitive. Analytical data was presented to the supervisor for checking and signing-off for release of the product batch prior to the results being recorded on a daily run chart for viewing by production personnel.</p>

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards such as:
 - AS 1766.0-1995 Food microbiology - General introduction and list of methods
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
 - ISO/TS 19036 Set:2006 Microbiology of food and animal feeding stuffs - Guidelines for the estimation of measurement uncertainty for quantitative determinations
- Australia New Zealand Food Standards (ANZFS) Code
- Australian code of good manufacturing practice for medicinal products (GMP)
- Australian Quarantine and Inspection Service (AQIS) Export Control (Orders) Regulations 1982
- Australian Quarantine and Inspection Service (AQIS) Import Guidelines
- calibration and maintenance schedules
- data quality procedures
- enterprise recording and reporting procedures

RANGE STATEMENT	
	<ul style="list-style-type: none"> • equipment startup, operation and shutdown procedures • gene technology regulations • industry standards, such as Royal Australian Chemical Institute (RACI) or American Association of Cereal Chemists (AACI) methods for colour, moisture, total ash, fats and proteins, nitrogen, fibre, micro-organisms and viscosity • material safety data sheets (MSDS) • material, production and product specifications (including maximum residue levels) • national measurement regulations and guidelines • principles of good laboratory practice (GLP) • production and laboratory schedules • quality manuals, equipment and procedures manuals • SOPs and in-house methods • Therapeutic Goods Regulations 1009
Sample preparation processes	<p>Sample preparation processes may include:</p> <ul style="list-style-type: none"> • grinding • milling • preparation of discs • dissolving • ashing • refluxing • extracting • filtration • evaporation • flocculation • precipitation and centrifugation • culturing of selected micro-organisms • digestion • degassing • temperature equilibration
Principles and concepts underpinning the test/procedure	<p>Principles and concepts underpinning the test/procedure may include:</p> <ul style="list-style-type: none"> • ions, atoms, molecules, bonding, affinities and related properties

RANGE STATEMENT

	<ul style="list-style-type: none"> • chemical reactions (acid/base and complexiometric) • structure and properties of proteins, lipids, carbohydrates, vitamins and minerals • food additives, flavourings and essences • nutrient value of major food groups • interaction of water with food components • microbiology, including incubation characteristics, selective media, growth stages of bacterial cultures and reference organisms • microbiology of organisms with public health significance • chemical and microbial changes in food • food preservation techniques • fermentation process • packaging and controlled atmosphere • elastic properties of materials and hardness • cohesive/adhesive forces, fluid flow and viscosity • changes of state, energy content and enthalpy change • electromagnetic spectrum and absorption, emission and refraction of light • quality control program for raw materials, process control and finished product inspection • genetically modified foods
Food tests and procedures	<p>Food tests and procedures may include:</p> <ul style="list-style-type: none"> • visual and sensory tests: <ul style="list-style-type: none"> • appearance, taste, texture, colour and odour of foods • melting point, boiling point and freezing point • sediments and scorched particles • foreign matter • damage to packaging and compatibility of packaging • dispersability • chemical analysis: <ul style="list-style-type: none"> • pH, conductivity and moisture content • solids, fats, proteins and carbohydrates

RANGE STATEMENT

	<ul style="list-style-type: none"> • ash analysis and salt analysis • titratable acids, iodine values and peroxide values • enzyme activity • specific ions and active ingredients • microbiological tests and procedures: <ul style="list-style-type: none"> • isolation, detection, classification to genera and some species or micro-organisms • enumeration and nomenclature of desirable/non-desirable micro-organisms • propagation and maintenance of yeast, bacteria and cultures used in food processing • measurement of spoilage and contamination • sterility, hygiene and sanitation checks • optical/spectrometric tests: <ul style="list-style-type: none"> • ultraviolet-visible (UV-VIS) spectrophotometry • refractive index • optical rotation • physical/mechanical tests: <ul style="list-style-type: none"> • mass, volume, density, specific gravity and particle size • foreign matter • rheology, viscosity and gel strength • 'wetability' and 'whipability' • homogenisation • browning (sugar content) • elasticity, hardness, compressibility and strength • starch quality • thermal tests: <ul style="list-style-type: none"> • calorific values • stability of products • effectiveness of heat treatments
Tests	<p>Tests may include methods for:</p> <ul style="list-style-type: none"> • control of starting materials, in-process materials and finished products • health monitoring

RANGE STATEMENT	
	<ul style="list-style-type: none"> • basic troubleshooting of production processes
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • microbiological organisms and agents associated with soil, air, water, plants, animal tissue and fluids • chemicals, such as acids, heavy metals, pesticides and hydrocarbons • aerosols from broken centrifuge tubes and pipetting • sharps and broken glassware • flammable liquids and gases • cryogenics, such as dry ice and liquid nitrogen • fluids under pressure, such as steam and industrial gases • sources of ignition • high temperature ashing processes • disturbance or interruption of services
Hazard control measures	<p>Hazard control measures may include:</p> <ul style="list-style-type: none"> • ensuring access to service shut-off points • recognising and observing hazard warnings and safety signs • labelling of samples, reagents, aliquoted samples and hazardous materials • handling and storage of hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions • identifying and reporting operating problems or equipment malfunctions • cleaning and decontaminating equipment and work areas regularly using enterprise procedures • using personal protective clothing and equipment, such as gloves, safety glasses, coveralls, gown, body suits and respirators • using containment facilities (PCII, PCIII and PCIV physical containment laboratories), containment equipment (biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets) and containment procedures • following established manual handling

RANGE STATEMENT	
	<p>procedures</p> <ul style="list-style-type: none"> reporting abnormal emissions, discharges and airborne contaminants, such as noise, light, solids, liquids, water/waste water, gases, smoke, vapour, fumes, odour and particulates to appropriate personnel
Records	<p>Records may include:</p> <ul style="list-style-type: none"> test and calibration results equipment use, maintenance and servicing history faulty or unsafe equipment
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time all operations assume the potentially hazardous nature of samples and require standard precautions to be applied where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL974006A Perform biological procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to interpret work requirements, prepare samples, conduct pre-use and calibration checks on equipment and perform routine biological procedures, including sample preparation. These procedures may involve several steps and are used to classify cell types, species and biologically active compounds by analysing their biological and chemical characteristics. This unit includes data processing, interpretation of results and troubleshooting obvious departures from standard procedures.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to technical assistants working in the biomedical, environmental, biotechnology and education industry sectors.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	<i>MSL973004A</i>	<i>Perform aseptic techniques</i>
	<i>MSL973007A</i>	<i>Perform microscopic examination</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret and schedule work requirements	1.1. Review work request to identify samples, required procedures and materials/equipment/instruments involved 1.2. Identify hazards and enterprise control measures associated with the sample, preparation methods, reagents and/or equipment 1.3. Plan parallel work sequences to optimise throughput of multiple sets of samples, if appropriate
2. Receive and prepare biological samples	2.1. Log samples using standard operating procedures (SOPs) 2.2. Record sample description, compare with specification and note and report discrepancies 2.3. Prepare samples in accordance with testing requirements 2.4. Ensure traceability of sample from receipt to reporting of results
3. Perform techniques that assist in the classification of a cell or species	3.1. Select suitable techniques in accordance with enterprise requirements and methods 3.2. Set up and use equipment and reagents in accordance with the method 3.3. Perform techniques in accordance with the method
4. Perform techniques that analyse biological activity	4.1. Select suitable techniques in accordance with enterprise requirements and methods 4.2. Set up and use equipment and reagents in accordance with the method 4.3. Perform techniques in accordance with the method
5. Process and interpret data	5.1. Record test data noting atypical observations 5.2. Construct calibration graphs, if appropriate, and compute results for all samples from these graphs 5.3. Ensure calculated values are consistent with expectations 5.4. Record and report results in accordance with enterprise procedures 5.5. Estimate and document uncertainty of measurement in accordance with enterprise procedures, if required 5.6. Interpret trends in data and/or results and report out of specification or atypical results promptly to appropriate personnel 5.7. Determine if obvious procedure or equipment

ELEMENT	PERFORMANCE CRITERIA
	problems have led to atypical data or results
6. Maintain a safe work environment	6.1. Use established safe work practices and personal protective equipment to ensure personal safety and that of other laboratory personnel 6.2. Minimise the generation of wastes 6.3. Ensure the safe disposal of biohazardous wastes 6.4. Clean, care for and store equipment and reagents as required
7. Maintain laboratory records	7.1. Record approved data into enterprise system 7.2. Maintain confidentiality and security of enterprise information and laboratory data 7.3. Maintain equipment and calibration logs in accordance with enterprise procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using instruments for qualitative and/or quantitative analysis
- sample preparation and separation techniques
- performing calibration checks
- metrology techniques underpinning test/procedure including estimating uncertainty
- maintaining and evaluating reagents
- troubleshooting basic equipment/method
- preparing and using calibration graphs and calculating results using appropriate units and precision
- applying theoretical knowledge to interpret gross features of data and make relevant conclusions such as identifying atypical results as out of normal range or an artefact
- tracing and sourcing obvious causes of an artefact
- recording and communicating results in accordance with enterprise procedures
- maintaining security, integrity, traceability of samples, sub-samples, test data, results and documentation

Required knowledge

Required knowledge includes:

- hazards and risks in biological laboratories
- principles and concepts related to equipment/instrument operation and testing
- function of key components of the equipment/instrument and/or reagents
- effects of modifying equipment/instrument variables
- basic equipment/method troubleshooting procedures
- calculation steps to give results in appropriate units and precision
- sources of uncertainty in measurement and methods for control
- importance and appropriate use of controls and certified reference materials
- enterprise and/or legal requirements for traceability
- relevant health, safety and environmental requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • interpret test procedures accurately • prepare and test samples using procedures appropriate to the nature of sample • perform calibration checks (if required) • safely operate test equipment to enterprise standards and/or manufacturer's specification • prepare calibration graphs and calculate results in appropriate units and precision • apply basic theoretical knowledge to interpret gross features of data and make relevant conclusions • identify atypical results as out of normal range or an artefact using reference material or quality control sera • trace and source obvious causes of an artefact • communicate problems to a supervisor or outside service technician • record and communicate results according to enterprise procedures • maintain security, integrity, traceability and identity of samples, sub-samples and documentation • follow OHS procedures and principles of GLP.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL924001A Process and interpret data</i> • <i>MSL974003A Perform chemical tests and procedures.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with appropriate test equipment and instruments, reagents and materials • SOPs and testing methods.
Method of assessment	<p>The following assessment methods are suggested:</p>

EVIDENCE GUIDE

	<ul style="list-style-type: none"> • review of results obtained by the candidate over a period of time to ensure accuracy, consistency and timeliness • review of testing records and workplace documentation completed by the candidate • observation of candidate conducting a range of biological procedures • feedback from peers and supervisors • oral or written questioning of biological concepts, principles and enterprise procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Biomedical (1)</p> <p>A laboratory technician conducts a screening test for parasites in stool samples. She/he checks the sample identification details, cross-checks the sample barcode with the request slip and the data entry in the laboratory information management system (LIMS). The technician locates the test method and then examines the sample container to ensure that it has not leaked and that there is sufficient volume for the test. She/he prepares the sample by adding solvent to a portion and shaking it before placing it in a centrifuge. After satisfactory separation, she/he pipettes a small quantity of the top layer of solvent onto a glass slide and adds iodine as a stain. The technician carefully views the slide using x40</p>

EVIDENCE GUIDE

magnification and searches for eggs. She/he enters a nil result in the LIMS and disposes of the sample in accordance with enterprise procedures.

Biomedical (2)

A technical officer is requested to determine the total protein concentration of a blood sample using colorimetry. After checking the condition of the sample, she/he collects the Biuret reagent from the refrigerator, the required number of tubes and protein control samples and standards specified in the method. The officer labels the tubes and then accurately dispenses the correct volumes of reagent, standards, controls and samples into them. The solutions are thoroughly mixed using a vortex mixer and allowed to stand for five minutes for the reaction to occur. She/he records absorbance readings for each tube and prepares a calibration curve. The officer reads the concentration values from the graph for the control and test samples and checks the control data against the expected values. As these fall within the accepted range, she/he enters the test results into the LIMS.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS 2134.1-1999 Recommended practice for chemical analysis by atomic absorption spectrometry - Flame atomic absorption spectrometry
 - AS 2162.1-1996 Verification and use of volumetric apparatus - General - Volumetric glassware
 - AS 3753-2001 Recommended practice for chemical analysis by ultraviolet/visible spectrophotometry
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
- Australian code of good manufacturing practice for medicinal products (GMP)
- calibration and maintenance schedules
- enterprise recording and reporting procedures
- equipment manuals
- equipment startup, operation and shutdown procedures
- industry methods, such as Royal Australian

RANGE STATEMENT	
	<p>Chemical Institute (RACI) and/or American Association of Cereal Chemists (AACC) methods for inorganic constituents</p> <ul style="list-style-type: none"> • material safety data sheets (MSDS) and safety procedures • material, production and product specifications • national measurement regulations and guidelines • principles of good laboratory practice (GLP) • production and laboratory schedules • quality manuals and equipment and procedure manuals • SOPs • waste minimisation and safe disposal procedures
Biological principles and concepts underpinning tests and procedures	<p>Biological principles and concepts underpinning tests and procedures may include:</p> <ul style="list-style-type: none"> • molecular interactions within the compounds of nucleic acids and nucleotides, proteins and amino acids, carbohydrates, lipids and vitamins, influencing structure, activity, chemical reactivity and physical properties, including solubility, energy levels and emission/absorption spectra • chemical and biochemical characteristics of lipids, carbohydrates, nucleic acids and proteins influencing structure, function and reactivity both in vitro and in vivo • chemical significance of biologically significant ions, such as calcium, zinc, iron, magnesium, sodium, potassium, chloride and phosphate • key metabolic pathways and the significance of initial nutrients, products and wastes on those pathways • structure and function of organelles, cells, plant and animal tissue and organs • interrelationships of biological systems (carbon cycle, energy cycle and the web of life) • classifications, such as bacteria, viruses, yeasts, single cell, multi-cellular, plants, animals, prions, helminths, prokaryotes and eukaryotes • phases of the cell cycle

RANGE STATEMENT	
	<ul style="list-style-type: none"> • Mendelian genetics, such as inheritance, meiosis, karyotypes, dominant and recessive traits, genotypes and phenotypes, and pedigrees • significance of the genetic code and transcription and translation • cell membrane activity, including diffusion (passive, facilitated and active), osmosis, tonicity and plasmolysis • staining reactions involving acid/base, redox, complex ion formation, solubility and equilibrium
Techniques for preparation of samples	<p>Techniques for preparation of samples may include:</p> <ul style="list-style-type: none"> • dissection, such as preparation of thymus extracts from mice • extraction (e.g. solvent extraction) • filtration (e.g. filter water samples and plate the sediment onto agar plates for incubation and growth of <i>E. coli</i>) • separation (e.g. dialysis) • precipitation and flocculation • centrifugation (excluding ultra centrifugation) • chromatography: <ul style="list-style-type: none"> • gel filtration chromatography (e.g. crude purification of proteins) • affinity chromatography (e.g. purification of immunoglobulins) • electrophoresis: <ul style="list-style-type: none"> • polyacrylamide gel electrophoresis for separation of DNA segments • agarose gel electrophoresis • capillary electrophoresis • gradient gel electrophoresis
Techniques to classify cells or species	<p>Techniques to classify cells or species may include:</p> <ul style="list-style-type: none"> • classification of species according to taxa • classification of cells according to microscopic or staining characteristics • characteristics of bacterial colonies: <ul style="list-style-type: none"> • growth on differential media

RANGE STATEMENT	
	<ul style="list-style-type: none"> • colony morphology (size and shape) • biochemical reactions, such as miniaturised test strips, redox reactions and sugar tests
Techniques to analyse chemical and biological characteristics	<p>Techniques to analyse chemical and biological characteristics may include:</p> <ul style="list-style-type: none"> • staining: <ul style="list-style-type: none"> • Gram stain for gram negative and positive bacteria • Romanowsky stain for blood films • Haematoxylin and Eosin for tissue sections • Oil red O for fatty cellular inclusions • spore staining • flagella staining • microscopic examination: <ul style="list-style-type: none"> • light • phase contrast • bright field • dark ground • enumeration • colorimetry and spectrophotometry: <ul style="list-style-type: none"> • ultraviolet/visible • fluorimetric • infrared • flame emission • atomic absorption spectrometry • electrochemistry: <ul style="list-style-type: none"> • pH • ion selective electrodes and polarography (e.g. concentration of chloride ions) • chromatography: <ul style="list-style-type: none"> • column and thin layer analytical and preparative chromatography • gas and liquid chromatography for purity, raw material and formulation checks
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • microbiological organisms and agents, associated with soil, air, water, blood and blood products, and human or animal tissue and

RANGE STATEMENT	
	<p>fluids</p> <ul style="list-style-type: none"> • chemicals, such as acids, solvents and stains • aerosols from broken centrifuge tubes and pipetting • sharps and broken glassware • flammable liquids and gases • cryogenics, such as dry ice and liquid nitrogen • fluids under pressure, such as steam, hydrogen in gas liquid chromatography and acetylene in atomic absorption spectrometry • sources of ignition • disturbance or interruption of services
Hazard control measures	<p>Hazard control measures may include:</p> <ul style="list-style-type: none"> • ensuring access to service shut-off points • recognising and observing hazard warnings and safety signs • labelling of samples, reagents, aliquoted samples and hazardous materials • handling and storage of hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions • identifying and reporting operating problems or equipment malfunctions • cleaning and decontaminating equipment and work areas regularly using enterprise procedures • using personal protective clothing and equipment, such as gloves, safety glasses, coveralls and gowns • using containment facilities (PCII, PCIII and PCIV physical containment laboratories), containment equipment (biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets) and containment procedures • following established manual handling procedures • reporting abnormal emissions, discharges and airborne contaminants, such as noise, light, solids, liquids, water/waste water, gases, smoke, vapour, fumes, odour and particulates to appropriate personnel

RANGE STATEMENT	
Disposal of biohazardous wastes	<p>Disposal of biohazardous wastes may include:</p> <ul style="list-style-type: none"> • collection for sterilisation by autoclaving (e.g. autoclaving of microbiological plates) • appropriate storage (e.g. of waste containing radioactive isotopes) • use of biohazard waste containers
Records	<p>Records may include:</p> <ul style="list-style-type: none"> • test calibration results • equipment use, maintenance and servicing history • faulty or unsafe equipment • batch number, catalogue number and use by date for analytical kits
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL975005A Conduct sensory analysis

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to set up and coordinate sensory analysis and assess the results obtained from a routine sensory analysis.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory technicians and technical officers working in the food processing industry sector. Although a supervisor may not always be present, the technician will follow standard operating procedures (SOPs) that will clearly describe the scope of permitted practice in modifying testing procedures and for communicating results to people outside of the laboratory.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These can be found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select panellists/individuals for sensory analysis	1.1. Perform initial screening of potential panellists/individuals based on the testing brief 1.2. Use information to select suitable people 1.3. Analyse and report the results used to establish a panel
2. Prepare panellists for sensory analysis	2.1. Prepare panellists for sensory analysis 2.2. Conduct any training required to detect test characteristics 2.3. Instruct panellists on recording and reporting requirements of test data
3. Prepare samples for sensory analysis	3.1. Prepare reference samples to be used for the sensory analysis specification 3.2. Prepare evaluation samples to sensory analysis specification 3.3. Apply food safety procedures in the preparation and presentation of samples 3.4. Identify and report on any defects or abnormalities in samples
4. Conduct routine sensory analysis	4.1. Select appropriate test materials for the information required 4.2. Ensure tests are conducted according to enterprise procedures 4.3. Analyse data 4.4. Report on process and results in accordance with enterprise procedures
5. Evaluate and report findings	5.1. Assess the possible effects of group attributes 5.2. Review reliability of results for group bias 5.3. Complete all relevant documentation and present findings
6. Maintain a safe work environment	6.1. Use established work practices to ensure personal safety and that of other personnel 6.2. Minimise the generation of wastes and environmental impacts 6.3. Ensure the safe collection of laboratory waste for subsequent disposal 6.4. Care for and store equipment and reagents as required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- developing and using questionnaires
- consumer research methods
- completing the necessary documentation
- selecting suitable panellists
- recognising the significance of cultural and social contexts and communicating appropriately
- selecting appropriate test procedures
- preparing evaluation samples by dosing or processing
- analysing data
- communicating the significance of results, including the discussion of any errors and/or unexpected variation to appropriate personnel

Required knowledge

Required knowledge includes:

- anatomy, physiology and functions of taste and smell
- interaction of sensory activity (e.g. interaction between taste and smell and effect of temperature on samples)
- associated characteristics of mouth feel and appearance
- principles of effective control of the sensory testing environment (e.g. conditions that can dull sensitivity)
- likely causes of variation in results and their control
- principles of descriptive, discriminative and affective sensory analysis methods
- development and use of questionnaires
- use of consumer research methods
- features of sensory quality control
- relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • complete the necessary documentation • perform initial screening of panellists and determine their suitability • select suitable panellists • communicate appropriately and recognise the significance of cultural and social contexts • select appropriate test procedures • ensure samples are in a suitable condition for analysis • accurately prepare evaluation samples by dosing or processing • thoroughly analyse data • communicate the significance of results, including the discussion of any errors and/or unexpected variation to appropriate personnel.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL925001A Analyse data and report results.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • statistical data sheets and charts, logbooks and scientific calculators • relevant ISO standards and AS standards • sensory evaluation panel room and group of panellists • access to a range of chemicals and samples.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of written reports which include an analysis of findings from sensory tests conducted by the candidate • observation of candidate conducting panel tests • written/oral questions to assess underpinning

EVIDENCE GUIDE

	<p>knowledge</p> <ul style="list-style-type: none"> • responses to market scenarios and/or case studies. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case study below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Food processing</p> <p>The quality manager in a dairy food company has an identified product which does not meet enterprise standards. An alternative ingredient has been supplied and used. The sensory analyst has the task of determining whether consumers will be able to detect any differences in this product compared to the standard product. The sensory analyst chooses an appropriate difference test and considers a suitable panellist group from log book records. Samples of the relevant products are stored and prepared under standard test conditions. A full sensory panel is conducted with score sheets, coding, booth preparation and product presentation. After testing, the results are analysed and the test conditions are reviewed. The overall results are presented as a written report to management.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Codes of practice	Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used
Standards, codes, procedures and/or enterprise requirements	<p>Standards, codes, procedures and/or enterprise requirements may include:</p> <ul style="list-style-type: none"> • Australian and international standards, such as: <ul style="list-style-type: none"> • AS 2542 Sensory analysis • AS 2609.1-2005 Methods for assessing modifications to the flavour of foodstuffs due to packaging - Sensory analysis • AS 2609.2-1983 Materials used for the packaging of food and beverages - Methods for the assessment of odour and taint - Instrumental methods • SOPs • specifications • sampling plans • sensory analysis criteria • reporting documentation
Information used to select suitable panellists may	<p>Information used to select suitable panellists may include:</p> <ul style="list-style-type: none"> • selection criteria • whether people have been trained or not • information from an initial screening questionnaire • availability • characteristics of unsuitable people such as smokers • sources of bias • company procedures
Samples	Samples may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • raw materials • ingredients • stages of production • final products • process aids and adjuncts • packaging materials • materials which come in contact with the product
Tests	<p>Tests may be performed to determine the following aspects of a sample:</p> <ul style="list-style-type: none"> • flavour • appearance • aroma • texture
Testing methods	<p>Testing methods may include:</p> <ul style="list-style-type: none"> • triangular test, duo-trio test, ranking test, paired comparison test and blending test • flavour profile • threshold analysis • discriminative testing, descriptive testing and affective testing
Attributes which could affect the results	<p>Attributes which could affect the results may include:</p> <ul style="list-style-type: none"> • age, gender and ethnicity • smoking • medications • qualifications and trained/untrained • random panel • cultural background, as related to food preferences/food styles
The primary flavour characteristics	<p>The primary flavour characteristics include:</p> <ul style="list-style-type: none"> • sweet/sour • umamic • bitter/salty
The results obtained from the sensory analysis	<p>The results obtained from the sensory analysis may be applied to:</p> <ul style="list-style-type: none"> • marketing studies • purchasing requirements

RANGE STATEMENT	
	<ul style="list-style-type: none"> • quality assurance at various stages of production • quality control and troubleshooting • research and development of new products • customer returns • product recalls
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL975020A Apply routine spectrometric techniques

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to analyse samples using routine spectrometric techniques. The unit also includes establishing client needs for routine and non-routine samples, optimising enterprise procedures and instruments for specific samples, obtaining valid and reliable data and reporting test results. Personnel are required to recognise atypical test data/results and troubleshoot common analytical procedure and equipment problems.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to technical officers working in all industry sectors, government agencies and research laboratories. All operations and analytical methods must comply with relevant standards, appropriate procedures and/or enterprise requirements. Although a supervisor may not always be present, the technician will follow standard operating procedures (SOPs) that clearly describe the scope of permitted practice, including varying enterprise/test procedures and communicating results to people outside the laboratory.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These can be found at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	MSL974003A	<i>Perform chemical tests and procedures</i>
		OR
	MSL974004A	<i>Perform food tests</i>
		OR
	MSL974006A	<i>Perform biological procedures</i>
	MSL973007A	<i>Perform microscopic examination</i>
	MSL973004A	<i>Perform aseptic techniques</i>
		AND
	MSL973002A	<i>Prepare working solutions</i>
		OR
	MSL974001A	<i>Prepare, standardise and use solutions</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish client needs and schedule analysis	1.1. Liaise with client or sample provider to determine client needs and sample history 1.2. Record sample description, compare with specification and record and report discrepancies 1.3. Identify non-routine samples and the possible need to vary enterprise procedures 1.4. Seek advice from supervisor about any proposed variations and document all approved changes 1.5. Schedule analysis using enterprise procedures
2. Prepare samples and standards	2.1. Obtain a representative analytical portion of the laboratory sample 2.2. Prepare sample in accordance with testing requirements 2.3. Prepare validation checks for analytical portion
3. Set up and optimise instrument	3.1. Perform pre-use and safety checks in accordance with enterprise procedures 3.2. Start up and condition the instrument using enterprise procedures 3.3. Optimise instrumental parameters to suit sample and test requirements 3.4. Check calibration status of instrument and perform calibration using specified standards and procedures, if applicable
4. Perform analysis	4.1. Measure analyte response for standards, validation checks and samples 4.2. Conduct sufficient measurements to obtain reliable data 4.3. Return instruments to standby or shutdown condition as required
5. Process and analyse data	5.1. Confirm data is the result of valid measurements 5.2. Perform required calculations and ensure results are consistent with standards or estimations and expectations 5.3. Record results with the appropriate accuracy, precision, uncertainty and units 5.4. Analyse trends in data and/or results and report out of specification or atypical results promptly to appropriate personnel 5.5. Troubleshoot analytical procedure or equipment

ELEMENT	PERFORMANCE CRITERIA
	problems which have led to atypical data or results
6. Maintain a safe work environment	<p>6.1. Identify risks, hazards, safety equipment and control measures associated with sample handling, preparation and analytical method</p> <p>6.2. Use personal protective equipment and safety procedures specified for test method and materials to be tested</p> <p>6.3. Minimise the generation of wastes and environmental impacts</p> <p>6.4. Ensure the safe disposal of laboratory wastes</p> <p>6.5. Clean, care for and store equipment and consumables in accordance with enterprise procedures</p>
7. Maintain laboratory records	<p>7.1. Enter approved data and results into laboratory information management system (LIMS)</p> <p>7.2. Maintain equipment logs in accordance with enterprise procedures</p> <p>7.3. Maintain security, integrity and traceability of samples and documentation</p> <p>7.4. Communicate results to appropriate personnel</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting client requests, test methods and procedures accurately
- safely setting up and shutting down equipment using enterprise procedures
- checking calibration/qualification status of equipment
- identifying and calculating potential sources of uncertainty
- preparing standards and samples appropriately
- choosing and optimising procedures and equipment settings to suit sample/test requirements, such as selection of wavelength maxima and position of burner
- operating equipment to obtain valid and reliable data
- making approved adjustments to procedures for non-routine samples
- recognising atypical data/results
- troubleshooting common analytical procedure and equipment problems
- applying theoretical knowledge to interpret data and making relevant conclusions
- recording and reporting data/results
- maintaining security, integrity and traceability of samples and documentation
- following occupational health and safety (OHS) procedures and principles of good laboratory practice (GLP)

Required knowledge

Required knowledge includes:

- spectrometric principles and concepts related to instrumentation operation and testing
- relationship of chemical structure to electromagnetic radiation absorption
- handling of unstable or hazardous chemicals and samples and/or the fragile/labile nature of biological material
- sample preparation procedures
- use of spectroscopy for qualitative and quantitative analysis
- function of key components of the equipment
- effects on spectra of modifying and/or optimising instrumental variables, such as wavelength, slit width, burner position and lamp voltage
- basic procedure and equipment troubleshooting techniques
- preparation and use of calibration charts and/or standards
- calculation steps to give results in appropriate accuracy, precision, uncertainty and units
- enterprise and/or legal traceability requirements

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• basic equipment maintenance procedures• relevant health, safety and environment requirements |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • interpret client requests, test methods and procedures accurately • safely set up and shut down equipment using enterprise procedures • check calibration/qualification status of equipment • prepare standards and samples appropriately • choose and optimises procedures and equipment settings to suit sample/test requirements, such as selection of wavelength maxima and position of burner) • operate equipment to obtain valid and reliable data • make approved adjustments to procedures for non-routine samples • recognise atypical data/results • troubleshoot common analytical procedure and equipment problems • apply theoretical knowledge to interpret data and makes relevant conclusions • record and report data/results in accordance with enterprise procedures • maintain security, integrity and traceability of samples and documentation • follow OHS procedures and principles of GLP.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL925001A Analyse data and report results.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with appropriate spectrometers, laboratory reagents and equipment • SOPs and test methods.
Method of assessment	<p>The following assessment methods are suggested:</p>

EVIDENCE GUIDE

	<ul style="list-style-type: none"> • review of test data/results obtained by the candidate over time to ensure accuracy, consistency and timeliness of results • inspection of test records and workplace documentation completed by the candidate • feedback from peers and supervisors • observation of candidate applying a range of routine spectrometric techniques • oral or written questioning of chemical principles and concepts, spectrometric techniques and enterprise procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>Ultraviolet (UV) spectroscopy is a sensitive technique for measuring polycyclic hydrocarbons. Because polycyclic hydrocarbons are considered carcinogenic, they are strictly regulated, and technicians making these measurements must follow enterprise procedures when handling samples. A technician conducting such an analysis noted variable results. After some discussion with the laboratory scientist, it was determined that the standard materials were light sensitive and were being degraded. The technician suggested that they change the light in the work space to yellow. When the lighting was changed, the standard remained stable and the</p>

EVIDENCE GUIDE

measurements for polycyclic hydrocarbons were carried out successfully.

Biotechnology

DNA can be extracted from human blood for subsequent identification of inherited genetic disorders, paternity disputes or forensic investigations. It is not a difficult procedure and is performed by technical officers in diagnostic molecular biology laboratories and those working in university research laboratories.

In such a procedure, the DNA is separated from the haemoglobin and blood cells, the protein in the plasma and the fat by a series of enzymic digests and phenol/chloroform extractions. The last purification step involves precipitation by cold ethanol and dissolving the DNA in TRIS buffer. The yield from 10mL of human blood is about 12-20mg of DNA if all is well. The yield is determined by spectrometric absorption at 260 and 280nm. The two wavelengths are used to determine the DNA extract and the degree of protein contamination. The technical officer will carry out this step before proceeding. Too small a yield will make further testing impractical and a polymerase chain reaction (PCR) will then be used to amplify the DNA in the sample.

Food processing

A technician was determining the amount (by mass) of (-carotene in imported tomato paste. The technician extracted a known mass of the paste into acidified ether, evaporated off the solvent and measured the absorbance of the remaining material by spectrometry. After reference to the Australian Food Additive Guide, the technician was able to report the tomato paste met the requirements of the Australian standard.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS 2982.1:1997 Laboratory design and construction - General requirements
 - AS/NZS ISO 14000 Set:2005 Environmental management standards set
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS 2134.1-1999 Recommended practice for chemical analysis by atomic absorption spectrometry - Flame atomic absorption spectrometry
 - AS 3753-2001 Recommended practice for chemical analysis by ultraviolet/visible spectrophotometry
 - ISO/IEC Guide 98-3:2008 Uncertainty of measurement - Part 3 Guide to the expression of uncertainty in measurement (GUM)
- Eurachem/CITAC Guide CG4 Quantifying uncertainty in analytical measurement
- Australian code of good manufacturing

RANGE STATEMENT

	<p>practice for medicinal products (GMP)</p> <ul style="list-style-type: none"> • calibration and maintenance schedules • cleaning, hygiene and personal hygiene requirements • data quality procedures • enterprise procedures, SOPs and operating manuals • enterprise recording and reporting procedures • equipment startup, operation and shutdown procedures • Guide to physical containment levels and facility types • incident and accident/injury reports • material safety data sheets (MSDS) • material, production and product specifications • national measurement regulations and guidelines • principles of GLP • production and laboratory schedules • quality manuals, equipment and procedure manuals • quality system and continued improvement processes • safety requirements for equipment, materials or products • sampling procedures (labelling, preparation, storage, transport and disposal) • schematics, work flows and laboratory layouts • statutory and enterprise OHS requirements • stock records and inventory • test procedures (validated and authorised) • training program contents • waste minimisation, containment, processing and disposal procedures
Routine spectrometric methods	<p>Routine spectrometric methods may include:</p> <ul style="list-style-type: none"> • ultraviolet-visible (UV-VIS) • infrared, including Fourier transform infrared and near infrared • atomic absorption spectroscopy (AAS) • fluorescence • flame emission spectroscopy

RANGE STATEMENT	
Tests	<p>Tests may include methods for:</p> <ul style="list-style-type: none"> • control of starting materials, in-process materials and finished products (e.g. petroleum, food, mining and manufacturing) • environmental monitoring pollutants in air, water, soil and vegetation • forensic tests • therapeutic drug analysis • diagnostic pathology tests • determinations of enzyme activity • routine chemical analytes, such as starch, glucose, DNA, and therapeutic degradation products • troubleshooting enterprise processes
Preparation of sample	<p>Preparation of sample includes processes, such as:</p> <ul style="list-style-type: none"> • identification of any hazards associated with samples and/or analytical chemicals • grinding, mulling, preparation of discs, ashing, dissolving, refluxing, extraction, filtration, evaporation, precipitation, centrifugation, drying and washing • determination of and, if appropriate, removal of any contaminants, impurities or interfering substances
Common analytical procedure and equipment problems	<p>Common analytical procedure and equipment problems may include:</p> <ul style="list-style-type: none"> • dirty or contaminated sample cells • inappropriate selection of wavelength • problems with interfering or complexing substances • incomplete atomisation of analyte • poor resolution of peaks • poor sensitivity • need to dilute samples
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • electric shock • radiation (UV) • biohazards: <ul style="list-style-type: none"> • microbiological organisms and agents

RANGE STATEMENT	
	<p>associated with soil, air, water, blood and blood products, and human or animal tissue and fluids</p> <ul style="list-style-type: none"> • mycotoxins • acids (e.g. sulphuric and nitric) • hazardous materials (e.g. heavy metals and pesticides) • hydrocarbons (e.g. phenol, benzene, toluene and complex mixtures) • aerosols from broken centrifuge tubes and pipetting • sharps and broken glassware • flammable liquids and gases • fluids under pressure, such as acetylene in atomic absorption spectrometry (AAS) • sources of ignition • high temperature ashing processes • disturbance or interruption of services
Addressing hazards	<p>Addressing hazards may involve:</p> <ul style="list-style-type: none"> • use of MSDS • labelling of samples, reagents, aliquoted samples and hazardous materials • use of personal protective equipment, such as gloves, safety glasses and coveralls • use of fumehoods, direct extraction of vapours and waste gases • use of appropriate equipment, such as biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets • use of Class PCII, PCIII and PCIV physical containment laboratories • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any

RANGE STATEMENT

	<p>time</p> <ul style="list-style-type: none"> • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health
--	--

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL975021A Apply routine electrometric techniques

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to analyse samples using routine electrometric techniques. The unit also includes establishing client needs for routine and non-routine samples, optimising enterprise procedures and instruments for specific samples, obtaining valid and reliable data and reporting test results. Personnel are required to recognise atypical test data/results and troubleshoot common analytical procedure and equipment problems.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to technical officers and analysts working in all industry sectors, government agencies and research laboratories. All operations and analytical methods must comply with relevant standards, appropriate procedures and/or enterprise requirements. Although a supervisor may not always be present, the technician will follow standard operating procedures (SOPs) that clearly describe the scope of permitted practice including varying enterprise/test procedures and communicating results to people outside the laboratory.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting, at the end of this unit of competency under the section "This competency in practice"</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	<i>MSL974003A</i>	<i>Perform chemical tests and procedures</i>
		OR
	<i>MSL974004A</i>	<i>Perform food tests</i>
		OR
	<i>MSL974006A</i>	<i>Perform biological procedures</i>
	<i>MSL973007A</i>	<i>Perform microscopic examination</i>
	<i>MSL973004A</i>	<i>Perform aseptic techniques</i>
		AND
	<i>MSL973002A</i>	<i>Prepare working solutions</i>
		OR
	<i>MSL4001A</i>	<i>Prepare, standardise and use solutions</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish client needs and schedule analysis	1.1. Liaise with client or sample provider to determine client needs and sample history 1.2. Record sample description, compare with specification and record and report discrepancies 1.3. Identify non-routine samples and the possible need to vary enterprise procedures 1.4. Seek advice from supervisor about any proposed variations and document all approved changes 1.5. Schedule analysis using enterprise procedures
2. Prepare samples and standards	2.1. Obtain a representative analytical portion of the laboratory sample 2.2. Prepare sample in accordance with testing requirements 2.3. Prepare validation checks for analytical portion
3. Set up and optimise instrument	3.1. Perform pre-use and safety checks in accordance with enterprise procedures 3.2. Start up and condition the instrument using enterprise procedures 3.3. Optimise instrumental parameters to suit sample and test requirements 3.4. Check calibration status of instrument and perform calibration using specified standards and procedures, if applicable
4. Perform analysis	4.1. Measure analyte response for standards, validation checks and samples 4.2. Conduct sufficient measurements to obtain reliable data 4.3. Return instruments to standby or shutdown condition as required
5. Process and analyse data	5.1. Confirm data is the result of valid measurements 5.2. Perform required calculations and ensure results are consistent with standards or estimations and expectations 5.3. Record results with the appropriate accuracy, precision, uncertainty and units 5.4. Analyse trends in data and/or results and report out of specification or atypical results promptly to appropriate personnel 5.5. Troubleshoot analytical procedure or equipment

ELEMENT	PERFORMANCE CRITERIA
	problems which have led to atypical data or results
6. Maintain a safe work environment	<p>6.1. Identify risks, hazards, safety equipment and control measures associated with sample handling, preparation and analytical method</p> <p>6.2. Use personal protective equipment and safety procedures specified for test method and materials to be tested</p> <p>6.3. Minimise the generation of wastes and environmental impacts</p> <p>6.4. Ensure the safe disposal of laboratory wastes</p> <p>6.5. Clean, care for and store equipment and consumables in accordance with enterprise procedures</p>
7. Maintain laboratory records	<p>7.1. Enter approved data and results into laboratory information management system (LIMS)</p> <p>7.2. Maintain equipment logs in accordance with enterprise procedures</p> <p>7.3. Maintain security, integrity and traceability of samples and documentation</p> <p>7.4. Communicate results to appropriate personnel</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting client requests, test methods and procedures
- safely setting up and shutting down equipment
- checking the calibration/qualification status of equipment
- preparing standards and samples
- choosing and optimising procedures and equipment settings to suit sample/test requirements
- operating equipment to obtain valid and reliable data
- making approved adjustments to procedures for non-routine samples
- recognising atypical data/results
- troubleshooting common analytical procedure and equipment problems
- applying theoretical knowledge to interpret data and make relevant conclusions
- recording and reporting data/results in accordance with enterprise procedures
- maintaining security, integrity and traceability of samples and documentation
- following occupational health and safety (OHS) procedures and principles of good laboratory practice (GLP)

Required knowledge

Required knowledge includes:

- redox and electrical principles and concepts related to instrumentation operation and testing
- handling of unstable or hazardous chemicals and samples and/or the fragile/labile nature of biological material
- sample preparation procedures
- use of various electrometric techniques for qualitative and quantitative analysis
- function of key components of the instrument
- effects on outputs and results of modifying instrumental variables such as voltage and current ranges
- procedure for optimising equipment by changing operation parameters such as drop rate and scan speed
- basic procedure and equipment troubleshooting techniques
- preparation and use of calibration charts and/or standards
- calculation steps to give results in appropriate accuracy, precision, uncertainty and units
- enterprise and/or legal traceability requirements

REQUIRED SKILLS AND KNOWLEDGE

- | |
|---|
| <ul style="list-style-type: none">• basic equipment maintenance procedures• relevant health, safety and environment requirements |
|---|

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • interpret client requests, test methods and procedures accurately • safely set up and shut down equipment using enterprise procedures • check calibration/qualification status of equipment • prepare standards and samples appropriately • choose and optimise procedures and equipment settings to suit sample/test requirements • operate equipment to obtain valid and reliable data • make approved adjustments to procedures for non-routine samples • recognise atypical data/results • troubleshoot common analytical procedure and equipment problems • apply theoretical knowledge to interpret data and make relevant conclusions • record and report data/results in accordance with enterprise procedures • maintain security, integrity and traceability of samples and documentation • follow OHS procedures and principles of GLP.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL925001A Analyse data and report results.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory equipped with routine electrometric equipment, laboratory reagents and equipment • SOPs and test methods.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of test data/results obtained by the candidate

EVIDENCE GUIDE

	<p>over time to ensure accuracy, consistency and timeliness of results</p> <ul style="list-style-type: none"> • inspection of test records and workplace documentation completed by the candidate • feedback from peers and supervisors • observation of candidate applying a range of routine electrometric techniques • oral or written questioning of chemical principles and concepts, electrometric techniques and enterprise procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Manufacturing</p> <p>Quality control tests on toothpaste require the monitoring of the soluble fluoride in the product. To analyse a sample, the technician uses an ultrasonic bath to disperse the paste in a buffer which controls ionic strength and pH (known as TISAB). He/she then measures the fluoride content using a fluoride ion-selective electrode which has been calibrated against a range of fluoride in TISAB standards.</p> <p>Environmental</p> <p>A technician routinely analyses effluent samples from a copper smelter for their lead and zinc content using differential pulse polarography. The samples require no</p>

EVIDENCE GUIDE

pre-treatment other than the addition of solid KCl as electrolyte. The technician programmes the polarograph to analyse multiple samples on a carousel and to perform standard additions automatically by drawing aliquots from a concentrated standard of the two metals.

Food processing

One of the important quality tests for a wine is its total acidity (principally tartaric acid). Because of the colour of red wine, it is not possible to perform a titration using an indicator for endpoint detection. The technician is required to calibrate a pH electrode and titrate aliquots of the wine to a pH of 8.4 with standardised NaOH. The endpoint pH is the generally accepted one for wines of all types.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards, such as:
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS 2982.1:1997 Laboratory design and construction - General requirements
 - AS/NZS ISO 14000 Set:2005 Environmental management standards set
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
 - ISO/IEC Guide 98-3:2008 Uncertainty of measurement - Part 3 Guide to the expression of uncertainty in measurement (GUM)
- Eurachem/CITAC Guide CG4 Quantifying uncertainty in analytical measurement
- Australian code of good manufacturing practice for medicinal products (GMP)
- calibration and maintenance schedules
- cleaning, hygiene and personal hygiene requirements
- data quality procedures
- enterprise procedures, SOPs and operating manuals
- enterprise recording and reporting procedures
- equipment startup, operation and shutdown

RANGE STATEMENT	
	<p>procedures</p> <ul style="list-style-type: none"> • Guide to physical containment levels and facility types • incident and accident/injury reports • material safety data sheets (MSDS) • material, production and product specifications • national measurement regulations and guidelines • principles of GLP • production and laboratory schedules • quality manuals, equipment and procedure manuals • quality system and continued improvement processes • safety requirements for equipment, materials or products • sampling procedures (labelling, preparation, storage, transport and disposal) • schematics, work flows and laboratory layouts • statutory and enterprise OHS requirements • stock records and inventory • test procedures (validated and authorised) • training program contents • waste minimisation, containment, processing and disposal procedures
Routine electrometric techniques	<p>Routine electrometric techniques may include use of:</p> <ul style="list-style-type: none"> • ion-selective electrodes • potentiometric titrations • conductometric titrations • amperometry • polarography
Tests	<p>Tests may include:</p> <ul style="list-style-type: none"> • control of starting materials, in-process materials and finished products • environmental monitoring • therapeutic drug analysis • determination of enzyme activity • routine determination of chemical analytes such as fluoride, nitrate, water hardness, lead,

RANGE STATEMENT	
	<p>copper and quinine</p> <ul style="list-style-type: none"> troubleshooting enterprise processes
Sample preparation	<p>Sample preparation may include:</p> <ul style="list-style-type: none"> identification of any hazards associated with samples and/or analytical chemicals grinding, mulling, digestion, dissolving, ashing, refluxing, extraction, filtration, evaporation, flocculation, precipitation, washing, drying and centrifugation determination of and, if appropriate, removal of any contaminants or impurities
Common analytical procedure and equipment problems	<p>Common analytical procedure and equipment problems may include:</p> <ul style="list-style-type: none"> matrix interferences such as formation of complexes physical damage to electrodes
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> electric shock biohazards, such as microbiological organisms and agents associated with soil, air, water, blood and blood products, and human or animal tissue and fluids chemicals: <ul style="list-style-type: none"> acids (e.g. sulphuric, perchloric and hydrofluoric) heavy metals and pesticides anions (e.g. fluoride) hydrocarbons (e.g. phenol, toluene, benzene and mono-aromatics) ammonium persulphide sharps and broken glassware aerosols from broken centrifuge tubes and pipetting flammable liquids and gases cryogenics such as dry ice and liquid nitrogen sources of ignition disturbance or interruption of services
Addressing hazards	<p>Addressing hazards may involve:</p> <ul style="list-style-type: none"> use of MSDS

RANGE STATEMENT	
	<ul style="list-style-type: none"> • labelling of samples, reagents, aliquoted samples and hazardous materials • use of personal protective equipment, such as gloves, safety glasses and coveralls • use of fumehoods and direct extraction of vapours and gases • use of appropriate equipment such as biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSL975022A Perform food analyses

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to analyse the nutrient and ingredient composition of foods and the identification and quantification of both chemical and biological contaminants within raw and processed foods. These tests may involve complex sample preparation followed by multi-staged and/or multi-instrumental analysis, immunoassay and computer-based nutrient analysis.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit of competency is applicable to laboratory technical officers and analysts working in the food and beverage processing industry sectors. All operations and analytical methods must comply with relevant standards, appropriate procedures and/or enterprise requirements. The unit covers tests and procedures that are usually performed in a full or partially computerised and automated laboratory environment. Although a supervisor may not always be present, the technical worker will follow standard operating procedures (SOPs) that clearly describe the scope of permitted practice including varying enterprise/test procedures and communicating results to people outside the laboratory.</p> <p>Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting, at the end of this unit of competency under the section 'This competency in practice'.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	<i>MSL974004A</i>	<i>Perform food tests</i>
		OR
	<i>MSL974006A</i>	<i>Perform biological procedures</i>
	<i>MSL973007A</i>	<i>Perform microscopic examination</i>
	<i>MSL973004A</i>	<i>Perform aseptic techniques</i>

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish client needs and schedule analysis	1.1. Liaise with client or sample provider to determine client needs and sample history 1.2. Record sample description, compare with specification and record and report discrepancies 1.3. Identify non-routine samples and the possible need to vary enterprise procedures 1.4. Seek advice from supervisor about any proposed variations and document all approved changes 1.5. Schedule analysis using enterprise procedures
2. Prepare samples and standards	2.1. Obtain a representative analytical portion of the laboratory sample 2.2. Prepare sample in accordance with testing requirements 2.3. Prepare validation checks and/or calibration standards for analytical portion 2.4. Use specialised procedures for ultra-trace sample and standard preparation, as required
3. Set up and optimise instrument	3.1. Perform pre-use and safety checks using enterprise procedures 3.2. Start up and condition the instrument using enterprise procedures 3.3. Optimise instrumental parameters to suit sample and test requirements 3.4. Check calibration status of instrument and perform calibration using specified standards and procedures, if applicable
4. Perform analysis	4.1. Measure analyte response for standards, validation checks and samples 4.2. Conduct sufficient measurements to obtain reliable data 4.3. Return instruments to standby or shutdown condition as required 4.4. Store unused/prepared laboratory samples for future reference if required
5. Process and analyse data	5.1. Confirm data is the result of valid measurements 5.2. Perform required calculations and ensure results are consistent with standards or estimations and expectations 5.3. Record results with the appropriate accuracy,

ELEMENT	PERFORMANCE CRITERIA
	<p>precision and units</p> <p>5.4. Analyse trends in data and/or results and report out of specification or atypical results promptly to appropriate personnel</p> <p>5.5. Troubleshoot analytical procedure or equipment problems which have led to atypical data or results</p>
6. Maintain a safe work environment	<p>6.1. Identify risks, hazards, safety equipment and control measures associated with sample handling, preparation and analytical method</p> <p>6.2. Use personal protective equipment and safety procedures specified for test method and materials to be tested</p> <p>6.3. Minimise the generation of wastes and environmental impacts</p> <p>6.4. Ensure the safe disposal of laboratory wastes</p> <p>6.5. Clean, care for and store equipment and consumables in accordance with enterprise procedures</p>
7. Maintain laboratory records	<p>7.1. Enter approved data and results into laboratory information management system (LIMS)</p> <p>7.2. Maintain equipment logs in accordance with enterprise procedures</p> <p>7.3. Maintain security, integrity and traceability of samples and documentation</p> <p>7.4. Communicate results to appropriate personnel</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting client requests, test methods and procedures accurately
- safely setting up, starting up and shutting down equipment using enterprise procedures
- checking calibration/qualification status of equipment
- handling, preparing and storing samples and standards appropriately
- choosing and optimising procedures and equipment settings to suit sample/test requirements
- operating equipment to obtain valid and reliable data
- calculating analyte concentrations with appropriate accuracy, precision and units
- recognising atypical data/results
- troubleshooting common analytical procedure and equipment problems
- applying theoretical knowledge to interpret data and make relevant conclusions
- recording and reporting data/results using enterprise procedures
- maintaining security, integrity and traceability of samples and documentation
- following occupational health and safety (OHS) procedures and principles of good laboratory practice (GLP)

Required knowledge

Required knowledge includes:

- structure, properties and nutritional value of proteins, lipids, carbohydrates, vitamins and minerals and fibre
- chemical composition of common food and beverages and the methods that can determine their composition
- key food processing and preservation techniques and their effect on nutrients
- packaging and controlled atmosphere storage and their effect on nutrients
- glycaemic index (GI) and its significance
- significance of digestion and absorption of macro and micro-nutrients in food and the implications of food additives and fortification on absorption of nutrients such as fortification of milks with iron (Fe) and calcium (Ca) and breakfast cereal with Fe
- interrelationships of specific nutrient composition with public health and health promotion issues
- food labeling regulations and their implications for nutritional claims
- micro-organisms responsible for food spoilage, contamination, food borne disease and used in food processing for preservation or probiotic application

REQUIRED SKILLS AND KNOWLEDGE

- quality control programs for raw materials, process control and finished product inspection
- sample preparation methods and correct storage conditions for specific food samples and tests
- principles and concepts related to instrument operation, material preparation and testing
- function of key components and sub -system of the instrument
- effects on outputs and results of modifying instrumental variables
- procedures for optimising instrument performance
- basic procedure and equipment troubleshooting techniques
- preparation and use of calibration charts and/or standards
- calculation steps to give results in appropriate units and precision
- sources of error in specific tests and reproducibility and accuracy of commonly used test method for nutrient analysis
- enterprise and/or legal traceability requirements
- basic equipment maintenance procedures
- relevant health, safety and environment requirements
- emerging character of pharmaceutical properties of foods and probiotics
- public perception of food safety including genetically modified foods and food irradiation
- role, and methods, of production of genetically modified foods in the market
- nature, structure and function of food additives
- food allergies and intolerances
- food legislation relevant for enterprise
- hazard analysis and critical control points (HACCP) procedures for enterprise

Additional knowledge requirements may apply for different food processing industry sectors, such as dairy, grains, fruit and vegetables, meat and cereals

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors should ensure that candidates can:</p> <ul style="list-style-type: none"> • interpret client requests, test methods and procedures accurately • safely set up, start up and shut down equipment using enterprise procedures • check calibration/qualification status of equipment • handle, prepare and store samples and standards appropriately • choose and optimise procedures and equipment settings to suit sample/test requirements • operate equipment to obtain valid and reliable data • calculate analyte concentrations with appropriate accuracy, precision, uncertainty and units • recognise atypical data/results • troubleshoot common analytical procedure and equipment problems • apply theoretical knowledge to interpret data and make relevant conclusions • record and report data/results using enterprise procedures • maintain security, integrity and traceability of samples and documentation • follow OHS procedures and principles of GLP.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or simulated workplace environment.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL925001A Analyse data and report results.</i> <p>Resources may include:</p> <ul style="list-style-type: none"> • standard laboratory with appropriate analytical instruments, laboratory reagents and equipment and samples • SOPs and test methods.
Method of assessment	<p>The following assessment methods are suggested:</p>

EVIDENCE GUIDE

	<ul style="list-style-type: none"> • review of test data/results obtained by the candidate over time to ensure accuracy, consistency and timeliness of results • inspection of test records and workplace documentation completed by the candidate • observation of candidate using instruments to conduct food analyses • feedback from clients, peers and supervisors • oral or written questioning of relevant principles, concepts, analytical techniques and enterprise procedures. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>Access must be provided to appropriate learning and/or assessment support when required.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.</p>
This competency in practice	<p>Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting.</p> <p>Food processing (1)</p> <p>A food laboratory technician is required to conduct nutritional analyses to meet Food Standards nutrition labelling requirements for a client's food sample. The client's product makes nutritional claims (for cholesterol and fatty acids) which require more than the standard format for a nutrition information panel (for energy, protein, total fat and saturated fat, carbohydrate, sugars and sodium). The technical officer schedules the nutritional assays according to enterprise procedures, sets up and calibrates the equipment, and prepares the samples and controls. She/he performs all required analyses carefully, recording sufficient readings to obtain</p>

EVIDENCE GUIDE

reliable data for all samples and controls and satisfying all quality assurance and client specific requirements. The technician presents the analytical data to her/his supervisor for checking and signing off within specified time frame and the results are released to client.

Food processing (2)

A new breakfast cereal is going to be launched. The cereal has been developed, a manufacturing process devised and the marketing and legal teams have collaborated with the food technologists to determine what information needs to be on the label and what can be proclaimed on that label. The cereal has been fortified with iron and the laboratory team is requested to perform analyses on the product to confirm the nutrient analysis. This analysis will involve chemical and biochemical food analyses as well as computer nutrient analysis based on ingredient quantities computed for adding during manufacture. The technical officer is allocated the task of estimating iron levels by nutritional analysis (computer-based) and using atomic absorption spectrophotometry (AAS) on the ashed sample.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Codes of practice

Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements

Standards, codes, procedures and/or enterprise requirements may include:

- Australian and international standards such as:
 - AS 1766.0-1995 Food microbiology - General introduction and list of methods
 - AS ISO 1000-1998 The international system of units (SI) and its application
 - AS ISO 17025-2005 General requirements for the competence of testing and calibration laboratories
 - AS/NZS 2243 Set:2006 Safety in laboratories set
 - AS/NZS ISO 9000 Set:2008 Quality management systems set
- Australia New Zealand Food Standards (ANZFS) Code
- Australian code of good manufacturing practice for medicinal products (GMP)
- Australian Quarantine and Inspection Service (AQIS) Export Control (Orders) Regulations 1982
- Australian Quarantine and Inspection Service (AQIS) Import Guidelines
- calibration and maintenance schedules
- data quality procedures
- enterprise recording and reporting procedures
- equipment startup, operation and shutdown procedures
- gene technology regulations
- industry standards, such as Royal Australian

RANGE STATEMENT

	<p>Chemical Institute (RACI) or American Association of Cereal Chemists (AACC) methods for colour, moisture, total ash, fats and proteins, nitrogen, fibre, micro-organisms and viscosity</p> <ul style="list-style-type: none"> • material safety data sheets (MSDS) • material, production and product specifications (including maximum residue levels) • national measurement regulations and guidelines • principles of GLP • production and laboratory schedules • quality manuals, equipment and procedures manuals • SOPs and in-house methods • Therapeutic Goods Regulations 1009 • test methods and SOPs involving, for example, sampling, sample preparation, storage, disposal, transport, data quality, waste minimisation, cleaning and hygiene and safety • nutrient analysis or food composition tables • Australia New Zealand Food Authority (ANZFA) Code and User Guides • National Association of Testing Authorities (NATA) Accreditation programs requirements • Association of Analytical Communities International (AOAC International) Official Methods of Analysis
Analytical instruments	<p>Analytical instruments may include:</p> <ul style="list-style-type: none"> • Spectrometric instruments: <ul style="list-style-type: none"> • ultraviolet-visible (UV-VIS) • infrared including Fourier transform infrared and near infrared • atomic absorption including flame and flameless • fluorescence, flame emission, inductively coupled plasma (ICP) optical emission and inductively coupled plasma-mass spectrometry (ICP-MS) • chromatographic techniques and instruments: <ul style="list-style-type: none"> • paper such as ascending and descending • thin layer such as ascending, high

RANGE STATEMENT	
	<p>performance, radical and descending</p> <ul style="list-style-type: none"> • column chromatography • affinity chromatography and gel filtration chromatography • gas liquid and gas solid chromatography • high performance liquid chromatography (HPLC) such as liquid-liquid (LLC), liquid-solid (LSC), ion (IC), size exclusion (SEC) • gas chromatography mass spectroscopy (GC-MS) • electrophoretic techniques, such as capillary electrophoresis • electrometric techniques: <ul style="list-style-type: none"> • ion-selective electrodes • potentiometric titrations • conductometric titrations • amperometry • polarography
Sample preparation:	<p>Sample preparation may include:</p> <ul style="list-style-type: none"> • identification of any hazards associated with the samples and/or analytical chemicals • grinding to required particle size, milling, preparation of disks, digestion, dissolving, ashing, refluxing, extraction, filtration, evaporation, flocculation, precipitation, washing, drying, centrifugation, degassing and temperature equilibration • culturing of micro-organisms • determination of, and if appropriate, removal of any contaminants or impurities • ultra-trace procedures requiring high purity solvents, clean rooms, ultra clean glassware and specialised glassware
Nutrient analysis may	<p>Nutrient analysis may include:</p> <ul style="list-style-type: none"> • percentage composition of foods for major macro-nutrients such as starch, sugars, fats, protein and fibre • percentage composition of foods for saturated, unsaturated (mono, poly and omega3) fats and trans fatty acids

RANGE STATEMENT	
	<ul style="list-style-type: none"> • soluble and insoluble fibre • micro-nutrients with positive or negative health implications • micro-nutrients that figure in Recommended Daily Intake (RDI) lists • enzymic and immunological assays
Ingredient composition	<p>Ingredient composition, may include specification of:</p> <ul style="list-style-type: none"> • gluten free, lactose free, wheat free, cholesterol, salicylates, amines, monosodium glutamate (MSG), alcohol, nuts, additives, such as maltodextrose, egg white, wheat varieties, antioxidants, flavins, soy and phytoestrogens, and glycaemic index (GI) • probiotic claims • genetically modified food, irradiation of foods or ingredients
Ingredient composition involved with the development of new processes, new products, and flavours	<p>Ingredient composition involved with the development of new processes, new products, and flavours may include:</p> <ul style="list-style-type: none"> • quantitative analysis of oils in condiments and mustards • characterisation of probiotic and prebiotic foods • characterisation of flavins and phytoestrogens • characterisation of starch variants such as resistant starch • characterisation of tannins and polyphenols in beverages • analysis of ingredients that impart flavour and colour
Checking for contaminants	<p>Checking for contaminants may include:</p> <ul style="list-style-type: none"> • identification of microbial contaminants • heavy metals • allergens • chemical contaminants that constitute either: <ul style="list-style-type: none"> • a public health risk with long term implications such as aflatoxin in peanuts • a food poisoning risk • spoiling of food leading to flavour changes

RANGE STATEMENT	
	and loss of sale
The test results	<p>The test results may contribute to:</p> <ul style="list-style-type: none"> • optimising production processes • nutritional information • labeling requirements • food safety • establishment, monitoring and troubleshooting of the HACCP process
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • electric shock • biohazards: <ul style="list-style-type: none"> • microbiological organisms and agents associated with soil, air, water, animal tissue and fluids • mycotoxins • chemicals: <ul style="list-style-type: none"> • acids (e.g. sulphuric, perchloric and hydrofluoric) • hazardous materials, such as heavy metals and pesticides • anions (e.g. fluoride) • hydrocarbons (e.g. mono-aromatics) • sharps, and broken glassware • aerosols • flammable liquids and gases • cryogenics such as dry ice and liquid nitrogen • fluids under pressure such as hydrogen in gas liquid chromatography and acetylene in atomic absorption spectrometry • sources of ignition • dusts • high temperature ashing processes • disturbance or interruption of services
Addressing hazards	<p>Addressing hazards may include:</p> <ul style="list-style-type: none"> • use of MSDS • labelling of samples, reagents, aliquoted samples and hazardous materials • personal protective equipment, such as gloves, safety glasses and coveralls

RANGE STATEMENT	
	<ul style="list-style-type: none"> • use of fumehoods, direct extraction of vapours and gases • use of appropriate equipment such as biohazard containers, laminar flow cabinets, Class I, II and III biohazard cabinets • handling and storage of all hazardous materials and equipment in accordance with labelling, MSDS and manufacturer's instructions • minimising exposure to radiation ionising such as lasers, electromagnetic and ultraviolet (UV) radiation
Occupational health and safety (OHS) and environmental management requirements	<p>OHS and environmental management requirements</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Testing
--------------------	---------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

MSS014003A Optimise sustainability of a process or plant area

Modification History

Not applicable.

Unit Descriptor

This unit of competency covers optimising the sustainability performance of a complete work area in a plant or part of the manufacturing value chain. It includes ensuring that production systems comply with sustainability and other environmental requirements and that optimal process, plant and equipment utilisation is planned and carried out. It also covers problem solving to fully meet sustainability needs and to ensure that production of finished goods meets customer requirements.

Application of the Unit

This unit applies inside organisations and their value chains. The unit has been developed with manufacturing operations as a focus especially work areas that process materials or components to manufacture products. However, because of the range of organisations in a typical manufacturing value chain it may also be applied to other types of organisations. The unit scope includes products made, services offered, and use of sites by an organisation or manufacturing value chain member (e.g. supplier of goods or services or a customer).

This unit describes the work conducted by senior operators, technicians, team leaders or frontline managers and other support staff who optimise process systems as part of their work function. The unit includes all items of equipment and unit operations which form part of the process of a complete area and assumes that the required production, technical, science or other operational skills and knowledge necessary to work in the process or work area have already been gained.

All operations are performed in accordance with organisational procedures, licensing requirements, legislative requirements and industrial awards and agreements.

Environmental sensitivities referred to in this unit are at the issue level. The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

- | | |
|---|---|
| 1 Analyse and evaluate current sustainability performance of process or work area | 1.1 Identify sustainability goals of the enterprise as they relate to work area |
| | 1.2 Compare actual with possible performance |
| | 1.3 Identify abnormal or sub-optimal sustainability performance |
| | 1.4 Identify hazards associated with process, plant and equipment relevant to work area |
| | 1.5 Collect and evaluate relevant records to determine possible causes for sub-optimal sustainability performance |
| | 1.6 Use appropriate techniques to rank possible causes from most to least probable cause |
| 2 Develop plan to optimise sustainable performance of process or work area | 2.1 Analyse causes to determine appropriate action |
| | 2.2 Predict the impact of a change in one unit or area on other value chain components |
| | 2.3 Predict the impact of a change on sustainability performance |
| | 2.4 Develop measurable objectives and evaluate alternatives |
| | 2.5 Identify requirements to implement change |
| | 2.6 Consult with stakeholders regarding planned changes and impacts |
| | 2.7 Develop optimisation plan taking account of hazards identified and sustainability implications and communicate to appropriate personnel |

- 2.8 Evaluate optimisation action to determine measures of effectiveness
- 3 Coordinate sustainability optimisation action plan
 - 3.1 Coordinate all appropriate process steps and operations in order to rectify causes in process, plant and equipment performance
 - 3.2 Initiate and/or implement all required optimisation actions
 - 3.3 Communicate optimisation outcomes to all relevant personnel
 - 3.4 Implement procedures and systems to eliminate possible future causes
 - 3.5 Record all relevant information
- 4 Develop continuous improvement strategies
 - 4.1 Review sources of information to identify possible factors causing sub-optimal performance
 - 4.2 Identify options for removing or controlling the risk of sub-optimal performance
 - 4.3 Assess the adequacy of existing control and quality methods and systems
 - 4.4 Identify opportunities to continuously improve performance
 - 4.5 Develop recommendations for continual improvement of process, plant and equipment effectiveness
 - 4.6 Consult with appropriate personnel and implement continuous improvement strategies

Document implementation of continuous improvement strategies

Required Skills and Knowledge

Required knowledge includes:

- principles and theory of the process, equipment and systems used in the work area sufficient to:
 - identify sustainability issues and impacts
 - identify other hazards associated with the process
 - recognise opportunities to improve and/or enhance the sustainability performance of the plant
 - understand changes or transformations to materials or components occurring during processing
- support functions needed for effective functioning of the process or work area, such as logistics, order processing, warehousing and storage, maintenance and administration
- organisational standard procedures and work instructions
- relevant regulatory requirements, including those related to sustainability and occupational health and safety (OHS) risk control, as appropriate to process/plant area optimisation
- starting quantity and quality of materials
- efficiency maximisation processes relevant to work area
- throughput maximisation processes relevant to work area
- energy efficiency concepts relevant to work area
- potential ecological impacts of work area processes or products
- use of utilities
- labour utilisation concepts relevant to work area, including:
 - overall cost
 - efficient use of equipment
 - reducing downtime
- minimisation of waste and rework
- potential of improved workplace layout and workflow

Required skills include:

- identifying sustainability goals of the enterprise and identifying implications for work area
- analysing process or work area plant and equipment to determine optimal related conditions or performance against enterprise sustainability goals
- interpreting information and making appropriate process control decisions
- distinguishing optimum and marginal performance of the work area process, plant or equipment
- distinguishing effective and marginal sustainability related performance corrections and actions
- identifying and controlling hazards by applying the hierarchy of control as part of the optimisation process
- communicating with team members and specialists on process and sustainability issues
- finding, analysing and using information

- reading and interpreting technical information
- analysing product/process performance data

Evidence Guide

Overview of assessment	A person who demonstrates competency in this unit must be able to analyse current sustainability performance of a process or plant area and prepare proposals for measurable improvement in sustainability.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors must be satisfied that the candidate can competently and consistently apply the skills covered in this unit of competency in new and different situations and contexts. Critical aspects of assessment and evidence include:</p> <ul style="list-style-type: none"> • analysing and evaluating current production performance, and developing and implementing plans to optimise process systems • determining sustainability impacts of current processes and products in work area • developing proposals for improvement to processes that are measurable and positively impact on sustainability.
Context of and specific resources for assessment	<ul style="list-style-type: none"> • This unit of competency is to be assessed in the workplace or a simulated workplace environment. • Assessment should emphasise a workplace context and procedures found in the candidate's workplace. • This unit of competency may be assessed with other relevant units addressing sustainability at the enterprise level or other units requiring the exercise of the skills and knowledge covered by this unit. • The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.
Method of assessment	<ul style="list-style-type: none"> • In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly. • Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. • The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work-like environment.
Guidance information for assessment	

Range Statement

Sustainability	<p>Sustainability is used to mean the entire sustainable performance of either the organisation/plant or the process or work area depending on the context of the relevant sentence. It includes:</p> <ul style="list-style-type: none"> • meeting all regulatory requirements • conforming to all relevant industry covenants, protocols and best practice guides • minimising ecological footprint of process, plant, product or work area • maximising economic benefit of process plant and product to the organisation and the community • minimising the negative OHS impact on employees, community and customer (e.g. OHS impacts of process, product and wastes)
Value chain components	<p>Value chain components include:</p> <ul style="list-style-type: none"> • all components from source through use to reuse and disposal if necessary
Interactions with the environment	<p>Interactions with the environment may include:</p> <ul style="list-style-type: none"> • drawing physical resources from the environment • releasing materials to the environment (e.g. emissions) • drawing energy from/releasing energy to the environment
Procedures	<p>Procedures include:</p> <ul style="list-style-type: none"> • all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other form
Typical problems	<p>Typical problems will require the application of detailed operational and process knowledge over the entire production/manufacturing area, including the principles of operation of the equipment. For manufacturing areas it may include the science of the changes to materials occurring within that area and the sustainability impacts of those changes</p>

Environmental sensitivities	<p>Environmental sensitivities may include:</p> <ul style="list-style-type: none"> • fragile areas, and rare or threatened species • heritage or cultural sensitivity issues • hazardous emissions • real or perceived overuse of scarce resources • noise • regulated emissions or other regulatory issues • community perceptions or other issues
Performance	<p>Performance covers the process, plant and equipment performance.</p> <p>Possible performance includes that performance indicated by:</p> <ul style="list-style-type: none"> • historical data and records • design performance <p>It may also include process/takt time requirements</p>
Sustainability issues	<p>Sustainability issues (as relevant to the work/process area) may include:</p> <ul style="list-style-type: none"> • need to reduce the carbon footprint of product and process through reduction in use of: <ul style="list-style-type: none"> • energy • water • raw materials • emissions • embedded carbon in transport, storage, rework and errors, inefficient processes and design <p>Sustainability related issues may also exist irrespective of the carbon equivalence aspects of the issue. This may include:</p> <ul style="list-style-type: none"> • current and future availability of raw materials • current and future availability of energy • extent and type of waste generation and disposal • efficiency of process in terms of consumption of materials and energy regarded as in short supply or which are regarded as environmentally sensitive • the extent to which the production process, product and waste affects the environment, including effects on: <ul style="list-style-type: none"> • climate • quality of local air and water • ecology • noise • relationship with the local and broader community,

	<p>(e.g. effect of operations on aesthetic appearance, preservation of heritage, and proximity to schools and religious facilities)</p> <ul style="list-style-type: none"> • extent of regulatory oversight and extent and cost of compliance
Hazards	<p>Hazards is used to include:</p> <ul style="list-style-type: none"> • sustainability hazards • environmental hazards • health hazards • safety hazards
Data and records	<p>Historical data and records may include:</p> <ul style="list-style-type: none"> • orders, project briefs or customer specifications • hazard logs • incident reports • maintenance records • errors and non-conformance reports • production records

Unit Sector(s)

Sustainability

Custom Content Section

Not applicable.

MSS014004A Develop team strategies for more sustainable use of resources

Modification History

Not applicable.

Unit Descriptor

This unit of competency covers leading teams and developing strategies for more sustainable use of resources. The team may be in operations, an operational support function (e.g. maintenance, office or warehouse) or along the value chain (e.g. supplier of goods or services or a customer).

Application of the Unit

This unit applies inside organisations and their value chains. The unit has been developed with manufacturing operations as a focus. However, because of the range of organisations in a typical manufacturing value chain it may also be applied to other types of organisations.

This unit applies where a team leader needs to integrate a range of skills and knowledge covering process skills and knowledge and sustainability. The team leader must lead and assist team members to understand and apply a holistic view of their job and the team's role within the organisation and the objectives that the team must meet as part of the sustainability impacts made by the enterprise.

The unit scope includes products made or services offered, and use of sites by an organisation or manufacturing value chain member (e.g. supplier of goods or services or a customer).

Environmental sensitivities referred to in this unit are at the issue level. The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

- | | |
|--|---|
| 1 Facilitate the development of process and sustainability knowledge | 1.1 Identify sustainability goals of enterprise as they relate to work area |
| | 1.2 Ensure capability of the team |
| | 1.3 Develop mentoring processes for team members in process and sustainability related skills |
| | 1.4 Structure team activities to facilitate the ongoing development of team members |
| | 1.5 Arrange for the development of competency by team members as required |
| | 1.6 Encourage team members to apply technical knowledge to the process |
| 2 Facilitate team improvements to sustainability | 2.1 Ensure sustainability requirements, operating procedures and other relevant documents are available to the team |
| | 2.2 Assist team members apply relevant information to the sustainability requirements of the team |
| | 2.3 Encourage team members to identify sub-optimal sustainability performance and make improvement suggestions |
| 3 Resource a proactive approach to sustainability | 3.1 Develop communications between specialists outside the team and team members |
| | 3.2 Develop strategies to monitor and deal with key sustainability issues in work area |
| | 3.3 Arrange for resources for team members to identify and take appropriate action on sustainability issues |
| | 3.4 Arrange workforce development for team members, as required, in proactive sustainability techniques |

- 4 Implement sustainability improvements for work area
 - 4.1 Plan the implementation of team suggested and externally directed sustainability improvements
 - 4.2 Facilitate team member commitment to and involvement in the implementation and monitoring of improvements
 - 4.3 Encourage the application of the Plan, Do, Check, Act (PDCA) approach to the job
 - 4.4 Arrange for workforce development as required to facilitate continued team involvement in sustainability improvement

Required Skills and Knowledge

Required knowledge includes:

- principles behind processes
- process skills and knowledge of team members
- procedures relevant to jobs and processes in work area
- methods of making/recommending improvements
- environmental impacts of materials and energy used/emitted
- environmental sensitivities of all areas impacted by the work/process area (and related areas where impact spreads beyond immediate area, e.g. by loss of containment)
- root cause analysis and problem solving
- mitigation strategies as relevant to work/process area
- sustainability issues relevant to the work/process area
- AS/NZS ISO 14000 Environmental Management Standards

Required skills include:

- identifying sustainability goals of the enterprise and analysing implications for work area and team
- communicating with team members and specialists on process and sustainability issues
- identifying and negotiating changes to teamwork organisation and responsibilities as a result of sustainability issues and associated mentoring and skill development
- representing needs of team in resource allocation processes
- finding information
- analysing and using information
- establishing a proactive teamwork culture

Evidence Guide

Overview of assessment	A person who demonstrates competency in this unit must be able to integrate process and sustainability skills and knowledge to develop strategies for a team to implement more sustainable use of resources in a process or work area.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently apply the skills covered in this unit of competency in new and different situations and contexts. Critical aspects of assessment and evidence include: <ul style="list-style-type: none"> • effective team leadership • identifying key features of current processes in work area • analysing current team structure and practices for sustainability related implications • planning, implementing and monitoring change at the team level.
Context of and specific resources for assessment	<ul style="list-style-type: none"> • This unit of competency is to be assessed in the workplace or a simulated workplace environment. • Assessment should emphasise a workplace context and procedures found in the candidate's workplace. • This unit of competency may be assessed with other relevant units addressing sustainability at the enterprise level or other units requiring the exercise of the skills and knowledge covered by this unit. • The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.
Method of assessment	<ul style="list-style-type: none"> • In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly. • Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. • The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work-like environment.
Guidance information for assessment	

Range Statement

Process	<p>Process may include:</p> <ul style="list-style-type: none"> any operational, logistics, administrative, information technology or business process relevant to the work of the team
Capability of the team	<p>Capability of the team includes:</p> <ul style="list-style-type: none"> necessary technical knowledge and information about relevant processes and support functions sustainability related goals sustainability knowledge and skills
Mentoring processes	<p>Mentoring processes covers formal and informal one-on-one support to team members and may include:</p> <ul style="list-style-type: none"> mentoring applied by the team leader directly to team members mentoring arranged by the team leader to occur through other internal specialist employees buddy systems within the team where more experienced team members mentor newer team members external mentors and coaches
Interactions with the environment	<p>Interactions with the environment may include:</p> <ul style="list-style-type: none"> drawing physical resources from the environment releasing materials to the environment (e.g. emissions) drawing energy from/releasing energy to the environment
Environmental sensitivities	<p>Environmental sensitivities may include:</p> <ul style="list-style-type: none"> fragile areas and rare or threatened species heritage or cultural sensitivity issues hazardous emissions real or perceived over use of scarce resources noise regulated emissions or other regulatory issues community perceptions or other issues
Sustainability issues	<p>Sustainability issues (as relevant to the work/process area) may include:</p> <ul style="list-style-type: none"> need to reduce the carbon footprint of product and process through reduction in use of: <ul style="list-style-type: none"> energy water raw materials

	<ul style="list-style-type: none"> • emissions • embedded carbon in transport, storage, rework and errors, inefficient processes and design <p>Sustainability related issues may also exist irrespective of the carbon equivalence aspects of the issue. This may include:</p> <ul style="list-style-type: none"> • current and future availability of raw materials • current and future availability of energy • extent and type of waste generation and disposal • efficiency of process in terms of consumption of materials and energy regarded as in short supply or which are regarded as environmentally sensitive • the extent to which the production process, product and waste affects the environment, including effects on: <ul style="list-style-type: none"> • climate • quality of local air and water • ecology • noise • relationship with the local and broader community (e.g. effect of operations on aesthetic appearance, preservation of heritage, and proximity to schools and religious facilities) • extent of regulatory oversight and extent and cost of compliance • AS/NZS ISO 14000 Environmental Management Standards
Procedures	<p>Procedures include:</p> <ul style="list-style-type: none"> • all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other form
Team	<p>Team may include:</p> <ul style="list-style-type: none"> • formally designated work teams from all sections of the organisation, including production, maintenance, technical, administration/finance, sales and marketing • ad hoc, temporary or permanent teams/groups who

	are or should be working as a team
PDCA	<p>PDCA is:</p> <ul style="list-style-type: none">• Plan• Do• Check• Act <p>An appropriate alternative is PDMIC:</p> <ul style="list-style-type: none">• Plan• Do• Measure• Improve• Control <p>Either approach (or a similar one) is appropriate</p>

Unit Sector(s)

Sustainability

Custom Content Section

Not applicable.

MSS015005A Develop required sustainability reports

Modification History

Not applicable.

Unit Descriptor

This unit of competency covers drafting reports required to meet regulatory or other sustainability reporting requirements. The reports may require the inclusion or interpretation of technical data.

It includes the development of formats or internal reporting templates to meet the public reporting needs of the organisation.

Application of the Unit

This unit applies to the development, production and oversight of sustainability reports for an organisation or part of an organisation. The reports may be required for regulatory, Board, employee, shareholder or community reporting purposes. Reports may be completed by an individual or be prepared by a team. Where team preparation is involved this unit supplies the skills for coordinating the report production.

Reports covered by this unit may relate to all aspects of an organisation's sustainability or may focus on particular aspects, such as carbon footprint, waste generation and control, environmental, ecological and community impacts. Where a specific type or format of report is required for regulatory purposes, MSS015017A Develop regulated sustainability reports, should be selected.

There is a requirement to present and organise data. The complexity of this requirement will vary according to the reports required and type and scale of the organisation's processes. Where required, appropriate mathematics and statistics units should be selected from the MEM05 Metal and Engineering Training Package or other appropriate Training Package. It would typically be undertaken by a manager or technical specialist who had a major responsibility for sustainability as part of a broader work role, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

- | | |
|---|--|
| 1 Determine requirements of sustainability report | 1.1 Establish purpose of report |
| | 1.2 Determine compliance requirements of report |
| | 1.3 Identify any commercial requirements which may be impacted by these requirements |
| | 1.4 Determine benefits which may be obtained from report for the organisation |
| 2 Locate data sources and processes needed to generate required information | 2.1 Identify sources of data currently available within the organisation |
| | 2.2 Identify external sources of data required |
| | 2.3 Identify any data gaps and develop strategies for obtaining required data |
| | 2.4 Obtain necessary authority to access external data sources, as required |
| | 2.5 Negotiate with relevant stakeholders to obtain necessary data which is not currently available |
| 3 Develop templates, protocols and procedures needed for report | 3.1 Develop data collection and information reporting templates and procedures |
| | 3.2 Implement systems and procedures for obtaining required information from collected data |
| | 3.3 Develop templates and protocols for required report sections and appendices |
| | 3.4 Ensure other report contributors have the required competencies and resources to draft their input |

- 3.5 Agree on timelines for preparation of report components
- 4 Compile required report
 - 4.1 Monitor the development of report components
 - 4.2 Take appropriate action to ensure timely completion of components to requirements
 - 4.3 Assemble components into report
 - 4.4 Complete report
 - 4.5 Review and adjust completed report, as required

Required Skills and Knowledge

Required knowledge includes:

- sustainability related regulatory and other compliance reporting requirements
- commercial reporting requirements
- possible organisational benefits from sustainability reporting
- internal and external data sources
- organisational protocols and procedures for obtaining and using data
- data manipulation and interpretation
- project planning and control
- editing and reviewing of report inputs by others
- AS/NZS ISO 14000 Environmental Management Standards

Required skills include:

- negotiating data collection procedures and reporting contributions from other contributors
- analysing sustainability related data
- collating, interpreting, and presenting statistical data sets and other numeric information, including data series, means and averages,
- writing reports
- using word processing and other software required for data collection and analysis

Evidence Guide

Overview of assessment	A person who demonstrates competency in this unit must be able to produce required sustainability reports, including locating data and developing or following templates, and produce report to regulatory or other requirements.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently apply the skills covered in this unit of competency in new and different situations and contexts. Critical aspects of assessment and evidence include: <ul style="list-style-type: none"> • properly identifying compliance and commercial aspects of the report • ensuring information collecting and processing are appropriate for scope of required report • producing report to required format and timeline.
Context of and specific resources for assessment	<ul style="list-style-type: none"> • This unit of competency is to be assessed in the workplace or a simulated workplace environment. • Assessment should emphasise a workplace context and procedures found in the candidate's workplace. • This unit of competency may be assessed with other relevant units addressing sustainability at the enterprise level or other units requiring the exercise of the skills and knowledge covered by this unit. • The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.
Method of assessment	<ul style="list-style-type: none"> • In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly. • Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. • The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work-like environment.
Guidance information for assessment	

Range Statement

<p>Regulatory report</p>	<p>Regulatory report may be to meet requirements of:</p> <ul style="list-style-type: none"> • regulatory requirements (e.g. energy efficiency, hazardous waste, National Pollutant Inventory (NPI), emissions and carbon) • state/federal environment departments • local government • energy/water authorities • Therapeutic Goods Administration (TGA) • AS/NZS ISO 14000 Environmental Management Standards • other regulatory bodies
<p>Commercial reporting requirements</p>	<p>Commercial reporting requirements may include reports required by, or for:</p> <ul style="list-style-type: none"> • Australian Stock Exchange (ASX) • Australian Competition and Consumer Commission (ACCC) • Board of Directors • shareholders • lending and insurance organisations • employees • community groups
<p>Sustainability impact</p>	<p>The sustainability impact of a product and process may include:</p> <ul style="list-style-type: none"> • resource footprint (e.g. water, carbon and carbon equivalent) of product and process • current and future availability of raw materials • current and future availability of energy • waste generation and disposal • efficiency of process • the extent to which the production process and product affects the environment, including effects on: <ul style="list-style-type: none"> • climate • quality of local air and water • ecology • noise • relationship with the local and broader community • extent of regulatory oversight and cost of compliance

Unit Sector(s)

Sustainability

Custom Content Section

Not applicable.

MSS024003A Apply an understanding of environmental principles to a site

Modification History

Not applicable.

Unit Descriptor

This unit of competency covers the ability to ‘read the landscape’ in terms of the physical and biological components of the environment and the ecological linkages in operation at a site. Personnel are required to apply basic principles of geomorphology, hydrology and ecology in a systematic, scientific appraisal of site condition. This requires sufficient knowledge of chemistry, physics, geology and biology to support a scientific approach to field ecology.

Application of the Unit

This unit of competency is applicable to environmental technicians in a range of industry sectors, such as:

- environmental services (e.g. sampling and monitoring of air quality, water, soil and noise)
- environmental compliance, auditing and inspection
- groundwater, clean water (e.g. catchments, supply and environmental flows)
- water treatment, storm and wastewater management
- solid and hazardous waste management, and site remediation
- management of contaminated sites
- geotechnical services and civil engineering
- natural resource management.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

- | | | | |
|---|-----------------------------|-----|---|
| 1 | Prepare for site inspection | 1.1 | Obtain and use maps, photos and related documentation to gain a preliminary understanding of site features |
| | | 1.2 | Collect site-specific or regional data on expected flora, fauna, soils and climate |
| | | 1.3 | Review site history and previous environmental or ecological studies, if available |
| | | 1.4 | Review all emergency plans, risk assessments, and safety and environmental management requirements associated with the field activities |
| | | 1.5 | Review legislative and planning instruments applicable to current and future site usage |
| | | 1.6 | Confirm site access requirements and identify potential site hazards |
| 2 | Conduct initial site survey | 2.1 | Sketch, map and/or photograph the site |
| | | 2.2 | Observe and record the surface geology and geomorphology of the site |
| | | 2.3 | Observe and record hydrology of the site |
| | | 2.4 | Observe and record the major flora of the site |
| | | 2.5 | Observe and record evidence of site fauna |
| | | 2.6 | Observe and record infrastructure and other modifications to the site |
| | | 2.7 | Consider the potential for presence of cultural and indigenous heritage items and record, as necessary |
| | | 2.8 | Check for evidence of illegal or inappropriate activities |

- | | | | |
|---|--|-----|---|
| 3 | Make an initial assessment of site condition | 3.1 | Use geomorphological and hydrological observations to describe surface condition and infer potential future impacts |
| | | 3.2 | Make inferences on apparent ecological health of the site to plan for an initial ecological study of the site |
| | | 3.3 | Determine the physical, chemical and biological parameters that would need to be measured and/or sampled during subsequent ecological appraisal of the site |
| 4 | Prepare for field study | 4.1 | Identify and describe the biological and chemical components of interest, sampling areas and field techniques to be used |
| | | 4.2 | Identify, obtain and check required equipment and materials required for field study |
| | | 4.3 | Securely stow all field equipment in vehicle to prevent damage in transit |
| | | 4.4 | Safely transport all field equipment to site and prepare it for use |
| 5 | Perform a basic ecological field study of the site | 5.1 | Perform ecological sampling for abundance and diversity parameters using the general techniques of transects and quadrats |
| | | 5.2 | Record appropriate descriptions of the habitat structure |
| | | 5.3 | Perform sampling for simple population, demographic and age structure parameters |
| | | 5.4 | Perform simple sampling and measurements on abiotic components |
| | | 5.5 | Perform simple targeted species sampling |
| | | 5.6 | Ensure compliance with relevant legislation, policy, codes of practice and accepted enterprise |

procedures

- | | | | |
|---|----------------------------------|-----|--|
| 6 | Finalise field study | 6.1 | Ensure all samples and data are stored safely |
| | | 6.2 | Rehabilitate sampling sites to render them safe and minimise environmental impacts |
| | | 6.3 | Clean all equipment, containers, work area and vehicles according to enterprise procedures |
| | | 6.4 | Pack and safely transport all samples, equipment and supplies back to home base |
| | | 6.5 | Ensure dispatch of collected samples for subsequent analysis, as necessary |
| | | 6.6 | Check serviceability of all equipment before storage |
| | | | |
| 7 | Process and present field data | 7.1 | Summarise field data using simple calculations, graphs, tables and/or maps |
| | | 7.2 | Provide reports that include simple conclusions and interpretations based on raw or summarised data |
| | | | |
| 8 | Maintain a safe work environment | 8.1 | Use defined safe work practices and personal protective equipment to ensure personal safety and that of others |
| | | 8.2 | Minimise the generation of waste |
| | | 8.3 | Ensure the safe collection of all hazardous wastes for appropriate disposal |

Required Skills and Knowledge

Required skills

Required skills include:

- site observational skills, including the ability to ‘step back’, question and interpret those observations
- researching and summarising existing data and reports
- communicating effectively
- planning and preparing for field activities
- field sampling and monitoring procedures, including labelling and traceability
- demonstrating correct and safe use of field instruments and/or equipment under laboratory and field conditions, including field calibration
- identifying and rectifying basic instrument faults
- writing/compiling concise and accurate reports
- responding effectively to changed or unforeseen circumstances
- seeking advice when issues/problems are beyond scope of competence/responsibility
- working safely for the protection of self and others

Required knowledge

Required knowledge includes:

- scientific terminology for environmental and ecological systems relevant to job role
- the structure of earth systems, including lithosphere, hydrosphere, atmosphere and biosphere (ecosphere)
- key concepts and principles of geomorphology, climate and hydrology
- fundamental concepts and principles in chemistry, physics, geology and biology to support a scientific approach to basic field ecology
- energy and material flows and cycles, including biogeochemical cycles
- the fundamentals of ecology, including:
 - ecosphere, biome and major ecosystem types
 - trophic structure of ecosystems, and hierarchies
 - organism, population, community, ecosystem hierarchy; habitat and biodiversity
 - abiotic and biotic components and their interrelationships and dependencies
 - ecological systems and dynamics; stability, succession and disruption
 - specific legislation, policies and codes of practice related to ecological field activities
- ecological, chemical and physical field monitoring procedures relevant to job role
- procedures for maintaining, storing and transporting samples/specimens to ensure their wellbeing, viability and integrity

- relevant health, safety and environment requirements, including field safety/survival principles

Evidence Guide

Overview of assessment	Competency must be demonstrated in the ability to perform consistently at the required standard.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Assessors must be satisfied that the candidate can competently and consistently apply the skills covered in this unit of competency in new and different situations and contexts. Critical aspects of assessment and evidence include:</p> <ul style="list-style-type: none"> • applying relevant aspects of environmental legislative and planning framework to site appraisal • researching, reviewing and summarising site environmental history • identifying key aspects of emergency, safety or environmental management plans that relate to a defined field activity • applying a working knowledge of relevant terminology, concepts and principles in geology, geomorphology, hydrology and ecology to provide a scientific, systematic appraisal of site environmental condition • planning and performing an ecological study and obtaining relevant, reliable data • demonstrating correct use of field instruments and/or equipment under laboratory and field conditions, including field calibration • applying sampling, testing and data quality procedures to accurately perform field tests • recording and reporting appraisal of site condition • working safely.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or a simulated workplace environment.</p> <p>Assessment should emphasise a workplace context and procedures found in the candidate's workplace.</p> <p>This unit of competency may be assessed with:</p> <ul style="list-style-type: none"> • <i>MSL974007A Undertake environmental field-based</i>

	<p><i>monitoring</i></p> <ul style="list-style-type: none"> • field-based environmental monitoring units, such as: <i>MSS024009A Assist with assessing and monitoring stormwater systems or MSS025013A Assist with assessing and monitoring wetlands</i> • <i>MSS024004A Process and present environmental data.</i> <p>The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.</p> <p>Resources may include:</p> <ul style="list-style-type: none"> • access to suitable sites and a vehicle • vehicles, survey equipment, sampling/monitoring equipment, cameras, consumables and manuals • work program, enterprise procedures, codes of practice and field protocols • information, such as maps and flora/fauna keys.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of data, results and site reports prepared by the candidate • feedback from peers and supervisors that the candidate consistently follows enterprise procedures, survey, sampling/measurement methods, and works safely • oral/written questioning associated with appraisal of environmental site condition • observation of the candidate conducting site appraisals • review of records completed by the candidate. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work-like environment.</p>

Guidance information for assessment	
-------------------------------------	--

Range Statement

Codes of practice	Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used
Legislation, standards, codes, procedures and/or enterprise requirements	<p>Legislation, standards, codes, procedures and/or enterprise requirements may include:</p> <ul style="list-style-type: none"> • federal legislation, such as: • Environment Protection and Biodiversity Conservation Act 1999 • state/territory government legislation and regulations and local government by-laws, policies, and plans dealing with: • land use, acquisition, planning and protection • environmental protection • cultural/heritage protection • vegetation management • nature conservation, wildlife/plant protection, prevention of cruelty to animals and quarantine • water and water management • soil conservation • pollution and contaminated sites • fisheries, forestry and mining operations • codes of practice dealing with the care and use of animals for scientific purposes • national environment protection measures • government policy (e.g. sustainable development and impact assessment) • Australian and international standards, such as: • AS ISO 14050:1999 Environmental management - Vocabulary • AS/NZS ISO 14000 Basic Set:2007 Environmental management basic set • AS/NZS 2031:2001 Selection of containers and preservation of water samples for microbiological analysis • AS 1726:1993 Geotechnical site investigations • enterprise sampling and monitoring protocols

	<ul style="list-style-type: none"> • equipment manuals and warranties, supplier catalogue and handbooks • material safety data sheets (MSDS) • occupational health and safety (OHS) national standards and codes of practice • site-specific requirements • specific environmental standards
<p>Ecological principles and concepts</p>	<p>Ecological principles and concepts may include:</p> <ul style="list-style-type: none"> • ecosphere, biome and major ecosystem types • ecological niche and biogeography • trophic dynamics, autotrophs, heterotrophs and detritivores, and food webs • distribution and abundance of organisms, populations and communities, and biodiversity • abiotic and biotic components and their interrelationships and dependencies • energy and material flows and cycles, including biogeochemical cycles • population ecology: <ul style="list-style-type: none"> • distribution, abundance and dispersion • growth rates and age structures • migration and dispersal in space and time • behavioural ecology (communication and learning, aggression and territoriality, and social group dynamics) • community ecology (ecological interactions): <ul style="list-style-type: none"> • intra/interspecific competition • concepts of coexistence, adaptive and competitive, including mimicry, coevolution, parasitism, mutualism, commensalism and predator/prey systems • species diversity in time and space
<p>Earth science principles and concepts</p>	<p>Earth science principles and concepts may include:</p> <ul style="list-style-type: none"> • geology: <ul style="list-style-type: none"> • earth structure and plate tectonics • classification of rocks (e.g. igneous, sedimentary, volcanic and stratigraphy) • weathering • geomorphology: <ul style="list-style-type: none"> • erosion and mass wasting • transportation and deposition, and sedimentation • fluvial, aeolian, hillslope and weathering processes • soil science:

	<ul style="list-style-type: none"> • soil classification • soil formation and soil profiles • pedology • edapology
Hydrological principles and concepts	<p>Hydrological principles and concepts may include:</p> <ul style="list-style-type: none"> • the hydrologic cycle: • run-off • infiltration • subsurface flow • water quality • ecohydrology • hydrogeology • water resources • hydrologic measurement: • surface flows (stream gauging) • groundwater (infiltration and flow) • precipitation and evaporation
Enterprise procedures for field activities	<p>Enterprise procedures for field activities may include:</p> <ul style="list-style-type: none"> • field notebooks or log books • standard operating procedures covering fieldwork, sampling and testing • equipment operating manuals, calibration procedures, instrument fault-finding procedures and general maintenance and repair procedures • emergency, first aid and survival procedures • requirements related to protection of the environment • incident/accident/injury report forms
Equipment	<p>Equipment may include:</p> <ul style="list-style-type: none"> • navigation and communication equipment (e.g. compass, maps, global positioning system (GPS), two-way radio and mobile phone) • survey equipment • sampling equipment and containers, and animal cages • parameter specific meter or multi-probes (e.g. dissolved oxygen, electrical conductivity, pH, turbidity, nitrates, phosphates and temperature) • field test kits to determine such parameters as dissolved gases, chemical anions and cations, heavy metals, E. coli and biological oxygen demand (BOD) • portable colourimeters and field microscopes

	<ul style="list-style-type: none"> • filters and sieves • soil monitoring kits • data loggers • first aid equipment
Field monitoring activities and skills	<p>Field monitoring activities and skills may include:</p> <ul style="list-style-type: none"> • sample collection, preservation, labelling, storage, and transportation according to enterprise procedures • correct use and calibration of field instruments according to written instructions • correct and accurate performance of field tests for specific parameters • clear and accurate recording of data • safe operation of motor vehicles and boats
Hazards	<p>Hazards may include:</p> <ul style="list-style-type: none"> • solar radiation, dust and noise • personnel getting lost • accidents, emergencies and incidents, such as snake, insect or animal bites • exposure to severe weather conditions • manual handling of heavy objects • vehicle and boat handling in rough/remote conditions
OHS and environmental management requirements	<p>OHS and environmental management requirements:</p> <ul style="list-style-type: none"> • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Environmental

Custom Content Section

Not applicable.

MSS402001A Apply competitive systems and practices

Modification History

New unit, superceding MSACMS200A Apply competitive manufacturing practices - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to implement basic improvement practices within an organisation using competitive systems and practices. The unit focuses on bringing together the basic concepts and the holistic application of these basic concepts and processes to operations. It would typically be carried out working as part of a team.

Application of the Unit

This unit applies to an individual in an organisation that has embarked on competitive systems and practices. The unit covers the skills and knowledge required to contribute to the competitive systems and practices processes and assumes that they are to be used within the scope of the individual's job and authority.

This unit requires the application of skills associated with planning and organising an individual's own role within the competitive systems and practices framework.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify own place in the value chain	1.1	Identify customers relevant to own work and their needs/requirements
		1.2	Identify suppliers for own work
		1.3	Identify value contributions along the chain
		1.4	Identify and recommend methods of increasing own contribution to the value chain
2	Improve the product and process value	2.1	Identify customer features/benefits in the product and process
		2.2	Identify aspects of product and process which contribute to customer features/benefits
		2.3	Identify aspects of product and process which do not contribute to customer benefits/features
		2.4	Recommend methods of reducing waste and increasing features/benefits
3	Use competitive systems and practices	3.1	Identify competitive systems and practices used in organisation and own work area
		3.2	Apply practices appropriate for the job or process
		3.3	Monitor the job/process and make adjustments to improve it in accordance with procedures
		3.4	Identify own skill requirements and seek skill development, if required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others to clarify scope of competitive systems and practices implementation and contributing suggestions for improvement
- visualising normal operational procedures in terms of flow and contribution to customer outcomes
- planning own tasks to support competitive systems and practices implementation
- implementing competitive systems and practices in own work area according to instructions
- identifying waste (muda)

Required knowledge

Required knowledge includes:

- internal and external customers and the value they derive from operations
- suppliers, their capabilities and contribution to value (this may be obtained from an existing value stream map or other enterprise documentation)
- waste (muda)
- relevant competitive systems and practices for own job and how to apply them
- factors impacting on product, operations and waste, particularly those wholly or partially under their control (and how to control them)

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person being assessed against this unit will work effectively in a competitive systems and practices environment, making continual positive contributions to the improvement of the business within the scope of their job.
Critical aspects for assessment and	A person who demonstrates competency in this unit must

evidence required to demonstrate competency in this unit	<p>be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the scope of competitive systems and practices implemented in their work area • identify services and/or functions supplied by suppliers and to customers • identify own tasks and responsibilities and relate them to organisation and customer requirements • identify aspects of products and process which add to or detract from customer benefit • contribute suggestions for improvement.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads, and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to</p>

	accommodate ethnicity, age, gender, demographics and disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control And Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures
--	---

	<ul style="list-style-type: none"> • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Customers	<p>Customers may include:</p> <ul style="list-style-type: none"> • internal or external customers and should be sufficiently close to the individual's work as to be easily identifiable • final customers used as the basis for the identification of value and waste <p>The individual does not need to interface directly with the external customer, but should be provided with sufficient information to enable them to identify customer benefits and customer features</p>
Suppliers	<p>Suppliers may be:</p> <ul style="list-style-type: none"> • internal or external suppliers and should be sufficiently close to the individual's work as to be easily identifiable <p>The operator does not need to interface directly with external suppliers, but should be provided with sufficient information to enable them to identify supplier contribution to their own work and to customer benefit</p>
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the organisation • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS402002A Sustain process improvements

Modification History

New unit, superseding MSACMS201A Sustain process improvements - Not equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to prevent process improvements in their own work from slipping back to former practices or digressing to less efficient practices.

Application of the Unit

This unit applies to organisations implementing competitive systems and practices and continuous improvement. It covers the skills needed to ensure that process improvements are sustained and opportunities taken to suggest further improvements.

Improvement initiatives can be made by any of a number of methods and by teams or individuals. The unit assumes that desired levels of performance or quality are known to employees.

The unit can be applied to all areas of an organisation, including production, maintenance, logistics and office functions.

This unit requires the application of skills associated with problem solving, initiative and enterprise and self-management in order to understand implement and monitor improvement practices. It also requires the ability to identify and address personal skill gaps in order to manage own ability to implement change.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|--------------------------------|-----|--|
| 1 | Examine previous improvements | 1.1 | Identify impact of previous process improvements to equipment, operations, services or products in own work area |
| | | 1.2 | Identify improvements where objectives have not been met |
| 2 | Implement corrective actions | 2.1 | Identify corrective actions that can be taken by self on process improvements that have not met objectives |
| | | 2.2 | Obtain any required approvals |
| | | 2.3 | Identify any additional, personal skill gaps and seek skill development |
| | | 2.4 | Adopt improved processes |
| 3 | Check changes | 3.1 | Identify claimed improvements |
| | | 3.2 | Identify methods of observing and measuring claimed improvements in own work area |
| | | 3.3 | Check if claimed improvements are occurring and report problems in accordance with procedures |
| 4 | Check for further improvements | 4.1 | Look for areas of possible further improvement |
| | | 4.2 | Discuss further improvements with peers and supervisors |
| | | 4.3 | Take action to implement improvements in accordance |

with procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others to clarify scope and stage of implementation of competitive systems and practices and contribute suggestions for further improvements in implementation
- visualising normal operational procedures in terms of flow and contribution to customer outcomes
- planning own tasks to support competitive systems and practices implementation
- implementing competitive systems and practices in own work area according to instructions
- identifying waste (muda)
- monitoring competitive systems and practices performance indicators in own work and work area

Required knowledge

Required knowledge includes:

- internal and external customers and the value they derive from own work area operations
- suppliers to own work area, their capabilities and contribution to customer benefit
- waste (muda)
- relevant competitive systems and practices for own job and how to apply and monitor the outcomes
- factors impacting on product, operations and waste, particularly those wholly or partially under their control (and how to control them)

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person being assessed against this unit will be able to demonstrate their willing adoption of new equipment, processes, procedures and practices as well as their expertise at implementing them and making critical
------------------------	--

	reviews of their performance in line with their level of competence and authority.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • implement and monitor process improvements in own work area against objectives • contribute suggestions for further improvement/s • apply procedures for seeking approvals and reporting non-conformances.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to</p>

	accommodate ethnicity, age, gender, demographics and disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures
--	---

	<ul style="list-style-type: none"> • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and industry sector
Customers	<p>Customers may be:</p> <ul style="list-style-type: none"> • internal or external customers and should be sufficiently close to the individual's work as to be easily identifiable • final customers used as the basis for the identification of value and waste <p>The individual does not need to interface directly with the external customer, but should be provided with sufficient information to enable them to identify customer benefits and customer features</p>
Suppliers	<p>Suppliers may be:</p> <ul style="list-style-type: none"> • internal or external suppliers and should be sufficiently close to the individual's work as to be easily identifiable <p>The operator does not need to interface directly with external suppliers, but should be provided with sufficient information to enable them to identify supplier contribution to their own work and to customer benefit</p>
Measuring improvements	<p>Measuring improvements may include:</p> <ul style="list-style-type: none"> • personally taking measurements • arranging for measurements to be taken/made by appropriate personnel
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipe • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and

	government regulations Procedures may be: <ul style="list-style-type: none">written, verbal, computer-based or in some other format
Improvements	Improvements include: <ul style="list-style-type: none">techniques for preventing mistakes by designing the operations process, equipment and tools so that an operation literally cannot be performed incorrectly (e.g. baka-yoke)techniques that generate warning signals were a mistake is about to be performed (poka-yoke)

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402010A Manage the impact of change on own work

Modification History

New unit, superseding MSACMC210A Manage the impact of change on own work - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by an employee to effectively manage the changes in their own work resulting from their organisation's implementation of competitive systems and practices.

Application of the Unit

This unit applies to an employee in an organisation implementing competitive systems and practices that affect the employee's own work. The unit includes the skills required to positively participate in ongoing and continuous change as it affects their work. The employee will be expected to deal with these changes as part of a team and to give feedback from their own perspective.

This unit requires the application of skills associated with problem solving, planning and organising and self-management for assessing and managing the impact of change on own work. This unit also requires the ability to seek information and feedback from team members on the impact of changes and suggested improvements.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|--|-----|--|
| 1 | Examine the impact of change on own work practices | 1.1 | Identify competitive systems and practices relevant to changes in own work |
| | | 1.2 | Examine changes to work flow |
| | | 1.3 | Examine changes to equipment/process/physical environment |
| | | 1.4 | Examine changes to work relationship with team members and other teams |
| | | 1.5 | Examine changes to data collection needs |
| | | 1.6 | Examine changed work for impacts on health, safety and environment (HSE) |
| | | 1.7 | Examine changes to quality requirements |
| | | 1.8 | Identify any additional individual skill needs |
| | | 1.9 | Identify other areas requiring assistance |
| 2 | Implement change | 2.1 | Review changes which may have an adverse impact with team leader |
| | | 2.2 | Adopt changes to individual work practice |
| | | 2.3 | Seek assistance in gathering/processing data, as required |
| | | 2.4 | Implement the data collection/processing and take actions on resulting information in accordance with procedures |
| | | 2.5 | Seek assistance/training to meet needs caused by change |

- 3 Implement continuous improvement
 - 3.1 Critically examine all changes
 - 3.2 Identify impacts of changes both up and down the immediate value stream
 - 3.3 Identify areas for improvement
 - 3.4 Make recommendations for improvement in accordance with procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying the competitive systems and practices being implemented in the organisation that are relevant to own work, including, if implemented:
 - Just in Time (JIT) and kanban systems
 - preventative maintenance
 - 5S housekeeping
 - continuous improvement processes (e.g. kaizen)
 - waste (muda) elimination
 - formal problem solving procedures (e.g. root cause analysis (RCA))
- analysing own work procedures
- communicating with others in work area, team leaders and other employees relevant to changes in own work
- solving problems relevant to changes in own work
- identifying sources of assistance in organisation if difficulty is experienced with changes
- interpreting relevant procedures and instructions
- working as part of a team

Required knowledge

Required knowledge includes:

- features of common competitive systems and practices sufficient for identification, including:
 - JIT and kanban systems
 - preventative maintenance
 - 5S housekeeping
 - continuous improvement processes (e.g. kaizen)
 - waste (muda) elimination
 - formal problem solving procedures (e.g. RCA)
- current processes and principles of operation
- sources of data on the process/plant and possible applications to information
- methods of determining own skill needs and developing skills, if required
- HSE principles as relevant to own job

- change implementation contacts and procedures relevant to work area
- employee assistance mechanisms in the organisation

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the competitive systems and practices used in their own work • identify changes to their own work flowing from the implementation of the relevant competitive systems and practices • implement changes • know when and how to seek assistance with work changes • make suggestions for improvements.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess response to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects

	<ul style="list-style-type: none"> • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on. • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems
--	--

	<ul style="list-style-type: none"> • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Managing impact of change	<p>Managing impact of change may include:</p> <ul style="list-style-type: none"> • elements being undertaken individually or as part of a team • seeking assistance from team leaders for areas outside the employee's range of responsibility and authority
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • all work instructions • standard operating procedures • formulas/recipes • batch sheet • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format
Gathering and monitoring	<p>The gathering and monitoring of performance data may</p>

performance data	<p>be:</p> <ul style="list-style-type: none"> • undertaken manually by individual employees through charts, tally sheets or keypad/board entry • collected automatically through software, such as SCADA software, ERP systems, MRP and proprietary systems
Continuous improvement	<p>Continuous improvement in competitive systems and practices (often referred to as kaizen) includes:</p> <ul style="list-style-type: none"> • the continual evaluation and improvement of all process in terms of time required, resources used, resultant quality, and other aspects relevant to the process
Value stream	<p>The value stream begins with the customer and includes all actions (both value adding and non-value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402021A Apply Just in Time procedures

Modification History

New unit, superseding MSACMT221A Apply Just in Time (JIT) procedures - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to work in an organisation implementing Just in Time (JIT) procedures.

Application of the Unit

This unit applies to an individual working in an organisation following JIT who will need to follow procedures which are specific to JIT, such as the controlled flow of material (e.g. the use of kanban and elimination of waste). This will involve the individual in the application of the pull system to their job and the authorisation of product/material flows in accordance with procedures and their level of authority.

This unit requires the application of skills associated with planning and organising and self-management to deliver product on demand using necessary tools, equipment and processes to meet production requirements. The unit also requires an ability to recognise and act on problems that may interfere with meeting production demands.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Respond to indicator of demand	1.1	Identify pull of product through work role
		1.2	Recognise indicator of flow authorisation
		1.3	Identify production or service required
2	Make products or deliver service to demand	2.1	Make product or deliver service as required by ticket
		2.2	Identify any factors likely to prevent demand being satisfied in own work or work of the team
		2.3	Take action in accordance with procedures
3	Update demand information as required	3.1	Record information on ticket to procedures, as required
		3.2	Facilitate operation of flow authorisation as part of work
4	Recommend improvements	4.1	Examine the operation of the JIT system as it relates to own work
		4.2	Identify areas for improvement
		4.3	Identify any additional personal skill requirements to implement JIT procedures
		4.4	Recommend improvements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- receiving ticket, kanban, order or other indicator of demand and interpreting correctly for own work function, including quantity, quality, time and delivery requirements
- ensuring that all production and movement of parts/material or delivery of a service for which the individual is responsible for takes place only as required by a downstream operation
- recognising and taking appropriate action on faults and other issues that may threaten the JIT delivery of own product or service
- reading and recording information on tickets or other indicators of demand
- suggest improvements to JIT system, as appropriate
- performing technical functions to meet indicators of demand from downstream and to issue indicators of demand upstream

Required knowledge

Required knowledge includes:

- relevant indicator of demands for own job
- own role in flow authorisation
- JIT methods relevant to job
- procedures for recommending improvements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the indicators of demand and the flow authorisation system in their work area • relate products and services supplied by suppliers and
---	---

	<p>customers to the flow authorisation system</p> <ul style="list-style-type: none"> • identify own tasks and responsibilities and relate them to the flow authorisation system • interpret received indicators of demand correctly for quantity, quality and time of delivery • contribute suggestions for improvement.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess response to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using some combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally</p>

	appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
--	---

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p>
--	---

	<ul style="list-style-type: none"> the stage of implementation of competitive systems and practices the size of the enterprise the work organisation, culture, regulatory environment and the industry sector
JIT	<p>JIT is a scheduling concept that calls for any item or service needed for an operation, whether a service, raw material, finished item, or anything in between to be available:</p> <ul style="list-style-type: none"> precisely when the service, product or operation is to be produced or undertaken in the right quantity and at the right quality
Product	<p>Product may include:</p> <ul style="list-style-type: none"> a physical product a supporting utility service, such as water, gas, power some other service (e.g. cranes and forklifts)
Flow authorisation	<p>Flow authorisation refers to:</p> <ul style="list-style-type: none"> a system which authorises the worker to make a product without reference to another authority
Indicator of demand	<p>An indicator of demand may include:</p> <ul style="list-style-type: none"> kanban bin, ticket or similar some other indicator of demand pull which authorises production or movement of an item (in some plants, this may also include authorisation using SCADA software) <p>In continuous operations organisations, production is measured in terms of production rate (e.g. kg/h, tonne/day) and rate is increased/decreased according to the flow authorisation which may be a kanban (e.g. ticket, order from a supplier) or may be a SCADA signal from a remote facility (e.g. customer tank) saying that resupply is required or similar</p>
Ticket	<p>A ticket may include:</p> <ul style="list-style-type: none"> kanban or some other record, paper or electronic, which constitutes the whole or part of the flow authorising system (where kanban bins are used, there may be no other record)
Kanban	<p>Kanban refers to:</p> <ul style="list-style-type: none"> a card or sheet used to authorise production or movement of an item and may vary in format or

	content between organisations and departments
SCADA	<p>SCADA refers to:</p> <ul style="list-style-type: none"> • a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and/or give required information to personnel for action
Pull system	<p>A pull system refers to:</p> <ul style="list-style-type: none"> • an operations planning system based on making on demand, as opposed to a push system based on making for stock using a sales forecast
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402030A Apply cost factors to work practices

Modification History

New unit, superseding MSACMT230A Apply cost factors to work practices - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by an individual to identify cost components in their work and to be able to determine, in general terms, the cost impacts of alternative actions.

Application of the Unit

This unit applies to an individual who is required to contribute to, and be involved in, the assessment of cost factors in their work. This may be done individually or in a team environment.

The unit covers the skills to be able to assess the relative costs of the alternatives and use this as one of the key factors in making decisions. Decisions are made within the scope of the employee's authority and according to procedures. Typical decisions include those that contribute to the efficient organisation of own work and the improvement of production time and cycle times.

This unit requires the application of skills associated with problem solving to identify cost factors and cost implications of own work and self-management to apply cost-effective practices.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify the major cost components of product or process in own work area	1.1	Identify cost components in the product or process in own work area
		1.2	Recognise the impact of current or alternative actions on costs
2	Identify constraints to cost-efficiency	2.1	Identify required production/process rate and major costs
		2.2	Identify costs factors under individual or team control
		2.3	Relate identified costs factors to impact on overall cost of production/process
		2.4	Identify cost factors that are a constraint to cost-efficiency in own work area
3	Apply cost-efficient work practices	3.1	Identify and explain to relevant people the implications of possible actions/changes to improve cost-efficiency in simple financial terms
		3.2	Identify non-financial implications of proposed changes in discussion with relevant people
		3.3	Select actions which minimise overall costs
		3.4	Monitor actions to ensure cost-efficiency in own work area is maintained

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others to clarify cost factors and contribute suggestions for improvement
- visualising normal operational procedures in terms of flow
- distinguishing between fixed and variable costs
- identifying fixed and variable cost components relevant to own work, including where applicable:
 - power/energy
 - materials, plant and equipment
 - production or process time, including impact on salary and wages
 - office expenses
 - government taxes and charges

Required knowledge

Required knowledge includes:

- cost components of products made
- costs concepts, such as expense and income
- major cost contributors to product (e.g. energy)
- the difference between internally and externally controlled costs
- difference between overhead, labour and consumables

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the scope of their own and their teams work
--	---

	<p>and relate it to the overall flow of work in the organisation</p> <ul style="list-style-type: none"> • express cost factors in specific terms (e.g. cost per item, process and task) and not just in a general manner • identify and express costs factors in simple financial terms • use cost factors to select lower cost alternatives when making decisions.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and</p>

	disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree
--	---

	<p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Cost components	<p>Cost components include:</p> <ul style="list-style-type: none"> • fixed and variable costs, such as power/energy, materials, plant and equipment, production or process time, including impact on salary and wages • office expenses, such as telephone • government taxes and charges
Process	<p>Process may include:</p> <ul style="list-style-type: none"> • a production, maintenance, logistics, office or other support process in an organisation
Overall cost	<p>Overall cost may include:</p> <ul style="list-style-type: none"> • the assessment of negative and positive financial implications • negative long-term issues, such as occupational health and safety (OHS), environmental and regulatory issues

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402031A Interpret product costs in terms of customer requirements

Modification History

New unit, superseding MSACMT231A Interpret product costs in terms of customer requirements - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by an individual to be able to identify the major cost components of either products or processes, the basic relationship of these to customer benefit, and use this to help minimise waste (defined as anything not delivering value as defined by the customer). It has a different focus to MSS402030A Apply cost factors to work practices, which focuses on costs in isolation, whereas this unit regards all costs not directly leading to customer benefit as waste.

Application of the Unit

This unit applies to an individual who uses their understanding of the customer's requirements of the product or process being undertaken as the basis for investigating work processes to identify waste sources and then takes action relevant to their level of competency and authority to reduce this waste. It requires an understanding of both the cost factors in the products they make and also the benefits which the customer derives from the product. This competency may be performed individually or in a team-based environment. This unit requires the application of skills associated with analysis and problem solving to identify waste and determine ways to minimise waste. This unit requires initiative and enterprise and application of learning in concepts of waste and waste minimisation.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify cost components deriving from customer benefit and other costs	1.1	Identify customer features/benefits in product or process being undertaken
		1.2	Identify cost components which deliver customer features/benefits and those which do not
2	Compare required performance of product or process steps with actual performance	2.1	Identify performance required to meet customer needs in own work and that of team
		2.2	Identify actual performance
		2.3	Compare cost components of products or process with current customer-related targets
		2.4	Separate costs components into those that contribute to customer features/benefits and those that do not
		2.5	Determine non-contributing cost components which are under control of the individual or team
3	Minimise waste	3.1	Recommend changes to eliminate or reduce waste
		3.2	Adopt changes which minimises waste
		3.3	Monitor effect of changes to ensure gains are made against customer features/benefits

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying customer benefit in own work and that of the individual's team
- identifying financial and other performance indicators for own work and of team, including where appropriate, takt time
- communicating with others to clarify cost factors and contribute suggestions for improvement
- visualising normal operational procedures in terms of flow
- distinguishing between fixed and variable costs
- classifying fixed and variable cost components in terms of relevancy to customer benefit, including where applicable:
 - power/energy
 - materials, plant and equipment
 - production or process time, including impact on salary and wages
 - required and unnecessary downtime
 - office expenses
 - government taxes and charges

Required knowledge

Required knowledge includes:

- value as defined by the customer and the relevancy to own and team's work
- ability to access company information about:
 - customer features/benefits
 - cost components of products made
 - costs concepts, such as expense and income
 - major cost contributors to product (e.g. energy)
- the difference between internally and externally controlled costs
- difference between overhead, labour and consumables

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify customer benefit from own and team's work • express cost factors (financial and other factors) in specific terms (e.g. cost per item, process and task), and not just in a general manner • identify and express costs factors in simple financial terms • contribute suggestions for improvement to minimise waste and overall costs.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will</p>

	<p>be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just In Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time
--	--

	<ul style="list-style-type: none"> • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Customer features/benefits	<p>Customer features/benefits include:</p> <ul style="list-style-type: none"> • characteristics of the product or service which add value to the customer, this value may be assessed in financial or features terms <p>The customer may be:</p> <ul style="list-style-type: none"> • internal or external
Performance	<p>Performance may include:</p> <ul style="list-style-type: none"> • the rate of output of the plant compared to the rate required to meet demand • takt, where takt time is the allowable time to produce one product at the rate and quality customers are demanding it (this is NOT the same as cycle time, which is the normal time to complete an operation on a product – which should be less than or equal to takt time)
Customer-related targets	<p>Customer-related targets include:</p> <ul style="list-style-type: none"> • internally set financial and operational targets that contribute to meeting customer features/benefits
Contributing and non-contributing cost components	<p>Contributing costs include:</p> <ul style="list-style-type: none"> • costs that make a direct contribution to customer features/benefits. These costs continue to need to be incurred (although they may be minimised) in order to gain the customer feature/benefit <p>Non-contributing costs include:</p> <ul style="list-style-type: none"> • other costs that do not contribute to customer features/benefits. These may be costs that must be maintained, such as regulatory compliance and occupational health and safety (OHS) costs and other

	costs which are not required and do not contribute to customer features and so should be eliminated if possible (this is also defined in terms of <i>waste</i> – see below)
Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) includes:</p> <ul style="list-style-type: none"> any activity which does not contribute to customer or organisation benefit/features in the product <p>Categories of waste include:</p> <ul style="list-style-type: none"> excess production and early production delays movement and transport poor process design inventory inefficient performance of a process making defective items <p>Waste for this unit may include activities which do not yield any benefit to the organisation or any benefit to the organisations customers</p>

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402040A Apply 5S procedures

Modification History

New unit, superseding MSACMT240A Apply 5S procedures in a manufacturing environment
- Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by an employee to apply 5S procedures to their own job and work area. The unit assumes the employee has a particular job and an allocated work area and that processes in the work area are known by the individual.

Application of the Unit

This unit applies to an individual in an organisation who works in an operational position as part of production, maintenance, logistics, and so on. The unit can also apply to individuals in other organisations who have a discrete role and responsibility for individually managed processes. For employees in an office, the specific office-related unit *MSS402041A Apply 5S* in an office should be selected.

This unit applies where an organisation has decided to embark on a competitive systems and practices strategy and as part of this has adopted the philosophy of 5S as one of the tools to improve performance. The employee needs to apply 5S to their job and work area and maintain the housekeeping and other standards set by 5S.

This unit requires the application of skills associated with planning and organising, problem solving and self-management, in order to identify and implement 5S housekeeping practices.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|---------------------------------|-----|---|
| 1 | Sort needed items from unneeded | 1.1 | Identify all items in the work area |
| | | 1.2 | Sort items to achieve deliverables and value expected by downstream and final customers |
| | | 1.3 | Sort items required for regulatory or other required purposes |
| | | 1.4 | Place any non-essential item in a appropriate place other than the workplace |
| | | 1.5 | Regularly check that only essential items are in the work area |
| 2 | Set the workplace in order | 2.1 | Identify the best location for each essential item |
| | | 2.2 | Place each essential item in its assigned location |
| | | 2.3 | After use immediately return each essential item to its assigned location |
| | | 2.4 | Regularly check that each essential item is in its assigned location |
| 3 | Shine the work area | 3.1 | Keep the work area clean and tidy at all times |
| | | 3.2 | Conduct regular housekeeping activities during shift |
| | | 3.3 | Ensure the work area is neat, clean and tidy at both beginning and end of shift |

-
- | | | | |
|---|------------------------|-----|--|
| 4 | Standardise activities | 4.1 | Follow procedures |
| | | 4.2 | Follow checklists for activities, where available |
| | | 4.3 | Keep the work area to specified standard |
| 5 | Sustain the 5S system | 5.1 | Clean up after completion of job and before commencing next job or end of shift |
| | | 5.2 | Identify situations where compliance to standards is unlikely and take actions specified in procedures |
| | | 5.3 | Inspect work area regularly for compliance to specified standard |
| | | 5.4 | Recommend improvements to lift the level of compliance in the workplace |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others to clarify issues during 5S implementation, communicate results and contribute suggestions for improvement
- visualising operations in terms of flow and contribution to customer outcomes
- planning own tasks in implementation of 5S
- implementing 5S in own work area according to instructions
- identifying waste (muda)
- prioritising activities and items
- reading and interpreting documents describing procedures
- recording activities and results against templates and other prescribed formats
- working with others
- solving problems

Required knowledge

Required knowledge includes:

- operations and processes relevant to own job
- meaning and application of 5S steps to own job and work area
- principles of efficient workplace organisation
- purposes of 5S
- methods of making/recommending improvements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify own tasks and responsibilities and relate them to organisation and customer requirements
--	--

	<ul style="list-style-type: none"> • identify and explain the stages of 5S • implement 5S in own work area • identify waste (muda) in the work area.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for assessment</p>	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory
---	---

	environment and the industry sector
5S	<p>5S is a system of work organisation originally developed in Japan based around housekeeping principles. A close translation of the five stages in the housekeeping approach is:</p> <ul style="list-style-type: none"> • sort • set in order • shine • standardise • sustain
Sort	<p>Sort involves keeping only what is absolutely necessary for the processes in the work area. Sort includes:</p> <ul style="list-style-type: none"> • clearing the work area of all non-essential equipment and materials <p>Non-essential items are those not required to either produce product, conduct process or operations, or make required adjustments to equipment during process or operations</p>
Set in order	<p>Set in order includes:</p> <ul style="list-style-type: none"> • assigning required equipment and materials appropriate locations in the work area
Shine	<p>Shine includes:</p> <ul style="list-style-type: none"> • keeping the work area clean at all times. This should be carried out to a regular daily schedule against allowed time and, on most occasions, at the end of a job
Standardise	<p>Standardising includes:</p> <ul style="list-style-type: none"> • activities that help maintain the order and the housekeeping standards • using procedures and checklists developed from a procedure
Sustain	<p>Sustain includes:</p> <ul style="list-style-type: none"> • making sure that daily activities are completed every day regardless of circumstance • cleaning up after a job • undertaking inspections, including: <ul style="list-style-type: none"> • informal inspections carried out often, at least weekly • formal inspections carried out at least monthly

	<ul style="list-style-type: none"> generating continuous improvement actions from daily activities following up specific actions to generate continuous improvement
Items in work area	<p>Items in work area may include:</p> <ul style="list-style-type: none"> tools jigs/fixtures materials/components plant and equipment manuals personal items (e.g. bags, lunch boxes and posters) safety equipment and personal protective equipment other items which happen to be in the work area
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> work instructions standard operating procedures formulas/recipes batch sheets temporary instructions and similar instructions provided for the operation of the plant good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> written, verbal, computer based or in some other format

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402050A Monitor process capability

Modification History

New unit, MSACMT250A Monitor process capability - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required for gathering of data and the interpretation of simple information to determine the compliance of the process and the taking of action as defined by the procedures where the information reveals the process is out of control parameters.

Application of the Unit

This unit applies to an individual in an organisation adopting specific competitive systems and practices, usually either six sigma or statistical process control/three sigma, as a means of determining and improving the capability of their process to customer requirements. The individual is involved in collecting specified data and performing specified manipulations to the data (typically by plotting on a chart or by entering into a nominated computer program). The information is typically presented to team members in terms of graphs/charts which they are expected to interpret at a basic level and then take action in accordance with procedures to restore the process to being under control parameters.

This unit requires the application of skills associated with entering and monitoring operational data and information and requires initiative, enterprise and problem solving in identifying production variations and making improvement recommendations.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

1	Collect and process data	1.1	Take specified measurements/readings, as required
		1.2	Enter data in log, computer or other record
		1.3	Manipulate and/or chart data as required by procedures
2	Identify variations that are not random and take action	2.1	Examine chart and/or reliability information
		2.2	Distinguish between random variations and those with an identifiable cause
		2.3	Take action specified in procedures when a variation with an identifiable cause occurs
3	Assist in process improvement	3.1	Collect data for process capability improvement trials
		3.2	Make recommendations for improvement
		3.3	Implement revised capability monitoring procedures

Elements and Performance Criteria

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- reading and interpreting electronic and hard copy operating instructions and documents, including where used:
 - work instructions
 - standard operating procedures
 - formulas/recipes
 - production and batch sheets
 - temporary instructions
 - other provided operating instructions
- monitoring performance data against specifications and control parameters
- examining equipment procedures, products and processes for possible causes of variations
- identifying when corrective action is required by reference to procedures

Required knowledge

Required knowledge includes:

- data collection methods for operations in work area
- data processing techniques required
- basic variability and normal distribution
- recognition of identifiable causes in accordance with procedures
- causes of different types of identifiable causes as defined by procedures
- actions to be taken for the different causes

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence should be available of data collected and processed. There may also be evidence of assignable causes recognised and action taken. There should not be evidence of assignable causes being ignored.</p> <p>A person who demonstrates competency in this unit must</p>
--	--

	<p>be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the scope of operations, including required performance parameters in their work area • collect, enter and process data, including normal performance and variations • read and interpret data, including identifying variation to set parameters • determine where assignable causes can be allocated to variations and take appropriate action • participate in data collection, when required, for process capability trials • contribute suggestions for improvement.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p>

	Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems. • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving
--	---

	<ul style="list-style-type: none"> • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Six sigma	<p>Six sigma is a process improvement methodology based on statistical process control with six sigma limits which equates to 3.4 defects per million opportunities for each product or service transaction</p> <p>Six sigma is also often used as a general term covering a competitive systems and practices approach. Six sigma training typically covers several units of competency in this Training Package</p>
Three sigma	<p>Three sigma includes:</p> <ul style="list-style-type: none"> • statistical process control with three sigma limits which equates to 3 defects per thousand opportunities for each product or service transaction
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other form
Random variation	<p>Random variation is the term used in statistical control to refer to those variations for which no cause can be found</p>
Identifiable cause	<p>Identifiable cause (also referred to as assignable cause or special cause) refers to:</p>

	<ul style="list-style-type: none">those variations for which a cause can be found and so the cause of the variation eliminated
Process capability	Process capability means the capability of the process to deliver to customer defined requirements. Process capability includes process stability against standardised practices and documentation to eliminate variation against customer requirements

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402051A Apply quality standards

Modification History

New unit, superseding MSACMT251A Apply quality standards - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to apply quality standards to work operations in an organisation. The unit is designed to complement competitive systems and practices units.

Application of the Unit

This unit applies to an individual who is expected to take responsibility for the quality of their own work, and to take actions specified in the procedures and within the scope of their job and authority to ensure that quality standards are met.

This unit requires the application of skills associated with interpreting and applying workplace standards and identifying and addressing problems that interfere with quality outcomes. The unit requires initiative, enterprise and self-management to ensure quality standards are achieved.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|---|-----|--|
| 1 | Assess own work | 1.1 | Continuously check completed work against workplace standards relevant to the operation being undertaken |
| | | 1.2 | Demonstrate an understanding of how the work activities and completed work relate to the next production process or processes and to the final products or services concerned |
| | | 1.3 | Identify and isolate faulty components, products or processes |
| | | 1.4 | Record and/or report faults and any identified causes to the supervisor concerned, where required, in accordance with workplace procedures |
| 2 | Assess quality of received components, parts or materials | 2.1 | Continuously check received components, parts, materials, information, service or final products against workplace standards and specifications for conformance |
| | | 2.2 | Demonstrate an understanding of how the received components, parts or materials, information or service relate to the current operation and how they contribute to the final quality of the product or service |
| | | 2.3 | Identify and isolate faulty components, parts, materials or information that relate to the operator's work |
| | | 2.4 | Record and/or report faults and any identified causes in accordance with workplace procedures |
| | | 2.5 | Identify causes of any identified faults and take corrective action as specified in workplace procedures |

- | | | | |
|---|--|-----|--|
| 3 | Measure components, parts or materials | 3.1 | Measure materials, component parts, information, service or products, as required, using the appropriate measuring instruments in accordance with workplace procedures |
| 4 | Record information on production indicator | 4.1 | Record basic information on quality and other indicators of process performance in accordance with workplace procedures |
| 5 | Investigate causes of quality deviations | 5.1 | Investigate and report causes of deviations from specified quality standards for components |
| | | 5.2 | Recommend suitable preventative action based on workplace quality standards and the identified causes of deviations from specified quality standards of materials |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting work instructions, specifications, standards and patterns appropriate to own work
- carrying out relevant visual inspections of materials, component parts and final products
- carrying out relevant physical/chemical measurements or tests
- maintaining accurate work records in accordance with procedures
- carrying out work in accordance with occupational health and safety (OHS) policies and procedures
- meeting work specifications
- communicating effectively within defined workplace procedures
- interpreting and applying defined procedures

Required knowledge

Required knowledge includes:

- relevant quality standards, policies and procedures
- relevant production processes, materials and products
- basic characteristics of materials used in the relevant production processes
- safety and environmental aspects of relevant production processes
- relevant measurement techniques and quality checking procedures
- workplace procedures
- reporting procedures

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • interpret, relevant work instructions, standards and specifications appropriate to own work
--	--

	<ul style="list-style-type: none"> • check and measure relevant quality parameters • interpret results of quality checks in terms of specifications, patterns and work standards • take required action where standards of materials, component parts, final product or work processes are found to be unacceptable • maintain accurate records.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>

Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
--	--

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted</p>
--	--

	<p>so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Quality parameters	<p>Quality parameters may include:</p> <ul style="list-style-type: none"> • finish • size • durability • product or process variations • materials • alignment • colour • damage and imperfections • time
Quality checks	<p>Quality checks are against set parameters for the process or product. Examples include:</p> <ul style="list-style-type: none"> • visual inspection • physical measurements • chemical tests • checks against patterns, templates and guides • processing time
Materials	<p>Materials may include:</p> <ul style="list-style-type: none"> • physical raw materials • orders, forms and other documentation • services required for undertaking an operation (e.g. power, water, compressed air and fuel)
Measure	<p>Measure includes:</p> <ul style="list-style-type: none"> • those measurements which may be taken by the employee in the workplace/at their work station
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the operation of the plant • good operating practice as may be defined by

	<p>industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care)</p> <ul style="list-style-type: none"> • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format
Indicators of production performance	<p>Indicators of production performance may include:</p> <ul style="list-style-type: none"> • number of items/production rate • delays and causes of delays (where known) • other information as specified in the procedures
Data entry/recording	<p>Data entry/recording may include:</p> <ul style="list-style-type: none"> • keyboard • written (including ticks or signs) • verbal
Sources of information/ documents	<p>Sources of information/documents may include:</p> <ul style="list-style-type: none"> • quality and Australian standards and procedures • work instructions, patterns, designs and recipes • organisation work procedures • manufacturer instructions for materials and equipment • organisational or external personnel • customer requirements
Investigate and report	<p>Investigate and report includes:</p> <ul style="list-style-type: none"> • following set procedures defined for such investigations <p>Set procedures may include:</p> <ul style="list-style-type: none"> • verbal instructions • documented procedures • other quality procedures as implemented within an organisation or work environment
Workplace context	<p>Workplace context includes:</p> <ul style="list-style-type: none"> • work organisation procedures and practices relating to the manufacture and quality outcomes for products • conditions of service, legislation and industrial agreements, including: <ul style="list-style-type: none"> • workplace agreements and awards • federal or state/territory legislation • standard work practice

Reporting/communication	Reporting/communication may include: <ul style="list-style-type: none"> • verbal and written communication in accordance with organisational policies and procedures • oral, written or visual communication and may include simple data
Being responsible for the maintenance of own work quality	Being responsible for the maintenance of own work quality may include: <ul style="list-style-type: none"> • contributing to the quality improvement of team or section output, where necessary, in accordance with workplace procedures • following safety, environmental, housekeeping and quality procedures as specified by materials/machine/equipment manufacturers, regulatory authorities and the organisation
Applicable regulations and legislation	Applicable regulations and legislation may include: <ul style="list-style-type: none"> • OHS legislation relevant to workplace activities • workers compensation legislation

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402060A Use planning software systems in operations

Modification History

New unit, superseding MSACMT260A Use planning software systems in manufacturing -
Not equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to access planning software (often known as Enterprise resource Planning (ERP), Materials Resource Planning (MRP and MRPII), and often by a proprietary name, to make routine business decisions required of the person as a regular part of their job.

Application of the Unit

This unit applies to an individual in an organisation using a planning software system and who must interface with that system. The unit applies to both accessing information from the planning software system and using it as an aid to decision making. This unit requires the application of communication, planning, and problem solving associated with using planning software in own work.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Use interface	1.1	Identify terminals relevant to own work station and functions
		1.2	Use keyboards, track ball/mouse and monitor and/or other peripherals to access system
		1.3	Navigate through system and screens to find program menu and data relevant to own work
		1.4	Identify and input information on own work processes at required frequency and to required detail
		1.5	Access message section and acknowledge messages
		1.6	Identify problems and make suggestions for improvements to relevance of planning software to own work
2	Access information	2.1	Identify work processes that require information from planning software system
		2.2	Obtain relevant data and information on current operations from the planning software system
		2.3	Identify the status of items in the value stream
		2.4	Access historical data and information
		2.5	Interpret information and identify and prioritise any

actions required in response to information

- | | | | |
|---|--|-----|---|
| 3 | Take appropriate actions in accordance with procedures | 3.1 | Take actions in response to information obtained from planning software |
| | | 3.2 | Follow up as appropriate to ensure anticipated results have occurred |
| | | 3.3 | Record adjustments and variations according to procedures |
| | | 3.4 | Identify any learning needs to use planning software and seek appropriate support |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- reading and interpreting electronic and hard copy operating instructions and documents, including where used:
 - work instructions
 - standard operating procedures
 - formulas/recipes
 - production and batch sheets
 - temporary instructions
 - other provided operating instructions
- working within access control requirements of the planning software system
- identifying modules, screens, files, and so on, of software relevant to own work
- logging in and using terminals and planning software at a level of access appropriate to own work
- accurately inputting data
- searching and retrieving data
- accessing nominated assistance with planning software

Required knowledge

Required knowledge includes:

- technical knowledge needed to operate own work processes
- planning software system and operation, including:
 - terminal locations and types
 - security and access arrangements
 - range of information held in planning software relevant to own work
 - data collection methods for operations in work area
 - assistance arrangements for users of planning software
 - business activities exercised by/through the planning software system
- value created by operations for customers

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the

performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the scope and relevance of planning software system to their own work • enter and retrieve data, including normal performance and variations • use planning software system to assist in own work • contribute suggestions for improvement to performance and relevance of planning software to own work area.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess</p>

	<p>underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping
--	---

	<ul style="list-style-type: none"> • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Planning software	<p>Planning software includes:</p> <ul style="list-style-type: none"> • software systems which integrate a range of business information, such as finance, logistics maintenance and production (frequently referred to as ERP, MRP, MRPII or a range of proprietary names)
Relevant data and information	<p>Relevant data and information may include:</p> <ul style="list-style-type: none"> • technical and other drawings • standard operating procedures and other work instructions • production schedules including historical data • orders and order tracking information • stock control • contact lists • occupational health and safety (OHS) information
Value stream	<p>The value stream begins with the customer and includes all actions (both value-adding and non-value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement, stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support

Items in the value stream	<p>Items in the value stream refer to information held within the planning software system that contributes to creating value as determined by the customer. Depending on the organisation it may include:</p> <ul style="list-style-type: none"> • physical elements of the production system, such as sites, work stations, equipment, material, including stock, work in progress and finished products • information needed to meet customer requirements, such as designs, drawings, work instructions, standard operating procedures, standards, material lists and pricing • information not directly related to current customer requirements but required by the organisation
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402061A Use SCADA systems in operations

Modification History

New unit, superseding MSACMT261A Use SCADA systems in manufacturing - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by an individual to interact with a System Control and Data Acquisition (SCADA) system as part of their job.

Application of the Unit

This unit applies to an individual in an organisation using a SCADA system and the individual must interface with that system. The individual will need to access this system as part of their routine and take actions based on the information they obtain from the SCADA system in accordance with procedures.

This unit requires the application of skills associated with using communication tools and technology for management of own work, planning and problem solving.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|---|-----|---|
| 1 | Use operator interface | 1.1 | Identify SCADA terminals relevant to own work station and functions |
| | | 1.2 | Use keyboards, track ball, monitor and/or stand alone controllers to access/interrogate system |
| | | 1.3 | Use correct level of access and find all relevant screens and information |
| | | 1.4 | Access message section and acknowledge messages |
| | | 1.5 | Input and output information correctly according to program and organisation requirements |
| | | | |
| 2 | Use information | 2.1 | Obtain data and information from SCADA, as required, including process, supply and product chain data |
| | | 2.2 | Interpret data and information as required by own job |
| | | 2.3 | Find and use relevant historical data and information |
| | | 2.4 | Use manufacturer manuals or specifications, as required, to expand knowledge of SCADA system relevant to own work |
| | | 2.5 | Determine and prioritise required actions |
| | | | |
| 3 | Make required changes in accordance with procedures | 3.1 | Adjust production/process in response to SCADA information |
| | | 3.2 | Record adjustments and variations to specifications/schedules and report to appropriate personnel |
| | | 3.3 | Seek feedback and information on adjustments to further improve procedures, where required |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using SCADA terminals and other input devices
- reading and interpreting electronic and hard copy SCADA operating instructions and documents, including where used:
 - work instructions
 - standard operating procedures
 - temporary instructions
 - other provided operating instructions
- working within security and access control requirements of the SCADA system
- identifying modules, screens, and so on, of SCADA system relevant to own work
- accurately inputting and outputting data
- searching and retrieving data
- accessing SCADA system nominated assistance, when required

Required knowledge

Required knowledge includes:

- technical knowledge needed to operate own work processes
- hierarchy of SCADA system and operation
- information available from and controls exercised by/through the SCADA system

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the scope and relevance of the SCADA system to their own work
--	---

	<ul style="list-style-type: none"> • access correct levels of the SCADA system • enter and retrieve data, including normal performance and variations • use SCADA system to assist in own work.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented ,or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being</p>

	performed.
--	------------

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as SCADA software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise
--	--

	<ul style="list-style-type: none"> the work organisation, culture, regulatory environment and the industry sector
SCADA	<p>SCADA refers to:</p> <ul style="list-style-type: none"> a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and/or give required information to personnel for action <p>In some industry sectors, the SCADA system is sometimes integrated into other sophisticated computer control systems, such as Distributed Control System (DCS). These sectors may simply refer to their SCADA as the DCS or other similar term (such as the proprietary name of the computer system).</p> <p>SCADA systems may provide information from outside of the process, such as stock/material levels in a customer plant and/or available supply, supply rates and pricing from a supplier plant. This information may all be accessed by the SCADA system and the employee using it in order to make production rate and other control decisions (either automatically or human assisted) about their own operations and work processes</p>
Supply and product chains	<p>The supply chain Includes:</p> <ul style="list-style-type: none"> all suppliers in the chain from the initial raw material up to the current step in the operations process <p>The product chain includes:</p> <ul style="list-style-type: none"> all steps after the current step up to the final customer <p>Competitive systems and practices organisations encompass the entire production system, beginning with the customer, and includes:</p> <ul style="list-style-type: none"> the product sale outlet the final assembler product design raw material mining and processing all tiers of the value stream (sometimes called the supply chain) <p>Any truly 'competitive' system is highly dependent on the demands of its customers and the reliability of its suppliers. No implementation of competitive systems and practices can reach its full potential without including the entire 'organisation' in its planning</p>

Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none">• work instructions• standard operating procedures• formulas/recipes• batch sheets• temporary instructions and similar instructions provided for the smooth running of the plant• good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care)• government regulations <p>Procedures may be:</p> <ul style="list-style-type: none">• written, verbal, computer-based or in some other format
-------------------	--

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402080A Undertake root cause analysis

Modification History

New unit, superseding MSACMT280A Undertake root cause analysis - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to undertake root cause analysis (RCA) by any person. This will often be undertaken by people working in a team. This unit also covers the competencies needed by operators to contribute to an advanced maintenance strategy using RCA coupled with diagrams and charts.

Application of the Unit

This unit applies to individuals working in an organisation which is applying competitive systems and practices strategies. The unit applies to the formal problem solving to root cause that the individual must undertake in their own work area or where the individual contributes to problem solving to root cause as part of a team.

This unit requires an ability to seek and apply information from a variety of sources in order to inform RCAs. Initiative and enterprise is also required to identify quick fix and permanent solutions to problems.

Where training in a wider range of problem solving techniques and tools is required the unit MSAPMSUP390A Use structured problem solving tools should be selected.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Recognise problems	1.1	Identify features or occurrences indicative of a problem
		1.2	Use appropriate tools, techniques and charts to define the problem
2	Implement quick fix	2.1	Recommend a quick fix within the scope of competency and authority
		2.2	Use technology or processes relevant to the problem to implement quick fix
3	Determine root cause	3.1	Identify a range of possible causes
		3.2	Gather data and other information to eliminate or confirm possible causes
		3.3	Use available data and information to link causes and effects
		3.4	Seek assistance, as required
		3.5	Identify root cause

- 4 Develop permanent solution
 - 4.1 Identify a range of methods to eliminate the root cause or break the cause tree
 - 4.2 Select the most appropriate solution
 - 4.3 Liaise with relevant people
 - 4.4 Recommend or implement solution within the limits of competency and authority
 - 4.5 Monitor impact of solution and make further recommendations, as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- cooperating and working with others on problem solving
- assessing and recording information from a variety of sources
- defining potential problems factually, including:
 - location and extent of problem or incident
 - sequence of events where relevant
 - extent of deviation from normal operation or performance
- analysing potential problems across a range of varied activities and knowledge applications
- reading and constructing simple charts, such as cause and effect diagrams

Required knowledge

Required knowledge includes:

- RCA methodology, including difference between quick fixes and root cause elimination or breaking of causal tree
- principles and normal operation of equipment, plant and processes in own work area sufficient to undertake a RCA and propose solutions
- common variances to normal performance that are indicators of a problem
- use of relevant analysis tools (e.g. cause/effect diagrams, Pareto charts and 5 Whys)
- operations in own work area

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • undertake problem identification • use appropriate processes to achieve root cause
--	--

	<p>identification</p> <ul style="list-style-type: none"> • prioritise solutions • recommend solutions and implementation procedures to problems within own area and range of technical skills and knowledge • evaluate implementation of solutions.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess response to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for	Assessment processes and techniques must be culturally

assessment	appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
-------------------	---

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p>
--	--

	<ul style="list-style-type: none"> the stage of implementation of competitive systems and practices the size of the enterprise the work organisation, culture, regulatory environment and the industry sector
Features or occurrences indicative of a problem	<p>Examples of features or occurrences indicating problems include:</p> <ul style="list-style-type: none"> variation to normal plant or equipment operation unplanned or non-conforming process or operations outcomes out of specification products excess scrap accidents and emergencies regulatory breaches customer returns and complaints reduction or loss of sales
Root cause	<p>There are many possible causes of any problem. The root cause contrasts with other possible causes of a problem which when eliminated have no impact or only ameliorate the problem. Elimination of the root cause permanently eliminates the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found.</p>
Cause tree	<p>The series of causes is referred to as the cause tree. Not all root causes are accessible and able to be eliminated. Breaking the cause tree is such a way that the problem cannot recur is an acceptable alternative.</p> <p>Not all situations can wait for the RCA and eventual elimination of the root cause as there may be serious current impacts. The quick fix will control these immediate impacts, but does not eliminate the root cause.</p>
Quick fix	<p>A quick fix is not a short cut or side step for a permanent solution to the root cause. It is a necessary step designed to control the immediate impacts of a problem, for example, to prevent ongoing errors or to ameliorate damage.</p>
Appropriate techniques/charts	<p>Appropriate techniques/charts may include:</p> <ul style="list-style-type: none"> control charts Pareto charts run charts flow charts

	<ul style="list-style-type: none">• cause and effect diagrams• tree diagrams• 5 Whys analysis
--	---

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS402081A Contribute to the application of a proactive maintenance strategy

Modification History

New unit, superseding MSACMT281A Contribute to the application of a proactive maintenance strategy - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to make a positive contribution to proactive maintenance strategies, including actions that contribute to equipment uptime and overall equipment effectiveness (OEE).

Application of the Unit

This unit applies to an individual in an organisation which is following a predictive, preventative or reliability-centred maintenance strategy and which requires commitment from all employees. The employee should 'own' their equipment/plant and take an active part in the implementation of the strategy within the scope of their authority.

This unit requires the application of skills associated with accessing and maintaining equipment/plant documentation, It also requires problem solving, initiative and enterprise to continually monitor and maintain operational performance of equipment/plant used in work role.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Maintain equipment/plant	1.1	Keep equipment/plant within area of responsibility clean
		1.2	Ensure equipment/plant is serviced and adjusted, as required, in accordance with procedures and own level of responsibility
		1.3	Access manufacturer manuals and specifications, where required, to expand knowledge on the maintenance of equipment/plant
		1.4	Access and update documentation on equipment/plant operation and maintenance as appropriate to workplace procedures
2	Monitor operation of equipment/plant	2.1	Regularly check key conditions of the equipment/plant as defined in workplace procedures
		2.2	Regularly check equipment/plant OEE
		2.3	Note any deviation from conditions specified in procedures
		2.4	Identify any previous occurrences of this deviation
3	Identify deviations and patterns	3.1	Identify any previous occurrences of a deviation
		3.2	Identify any related deviations which have occurred
		3.3	Identify any unusual occurrence which may be related to a deviation

- 4 Take action appropriate to competency and authority on deviation
 - 4.1 Liaise with relevant people regarding the deviation and the solution
 - 4.2 Implement solution and/or assist with the implementation of the solution, as appropriate

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- reading and interpreting electronic and hard copy plant, equipment, and process instructions and documents, including where used:
 - work instructions
 - standard operating procedures
 - workshop manuals and instructions from equipment manufacturers in regards to plant or equipment operation, regular maintenance, troubleshooting, and record of use or production
 - production and batch sheets
 - temporary instructions
 - other provided operating instructions
- examining equipment procedures, products and processes for possible causes of deviations from patterns of normal use
- interpreting OEE rates
- servicing and maintaining plant and equipment consistent with area of responsibility and own technical skills

Required knowledge

Required knowledge includes:

- normal behaviour of the equipment/plant
- indicators of abnormal performance
- principles of operation of plant and equipment sufficient to recognise problems and propose solutions
- appropriate cleaning and adjusting for the equipment/plant/area as required by procedures
- concept of OEE as: *availability x performance x quality rate*

where:

- availability takes into account losses due to breakdown, set up and adjustments
- performance takes into account losses due to minor stoppages, reduced speed and idling
- quality rate takes into account losses due to rejects, re-works and start-up waste

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • recognise deviations from normal performance patterns and deal with them appropriately • undertake operational service and maintenance on plant and equipment according to instructions.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p>

	Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • OEE • takt time • process mapping • problem solving
--	--

	<ul style="list-style-type: none"> • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Uptime	<p>Uptime refers to:</p> <ul style="list-style-type: none"> • the overall availability of the plant – it is the inverse of downtime or the unavailability of the plant. Ideal uptime is 100%
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403001A Implement competitive systems and practices

Modification History

New unit, superseding MSACMS400A Implement a competitive manufacturing system - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to implement and review competitive systems and practices in a person's own work within a team or work area, including the consideration of the impact on the work of others. The unit focuses on the holistic application of competitive systems and practices to achieve improved performance in own work and in activities with others in the team or work area that contribute to improving customer benefit.

Application of the Unit

This unit applies to individuals who are applying competitive systems and practices to their own work in a way that integrates with others in the team or work area who are also implementing competitive systems and practices. Depending on the operations or processes in the team or work area the unit may also include interaction with other teams and work areas. The unit is suitable for individuals who have formal responsibility for the work of others, such as team leaders. It is also suitable for individuals, such as technicians and tradespeople, who must integrate the application of their technical skills with the implementation of competitive systems and practices in an organisation.

The unit applies to the areas of cost, quality, delivery, safety/environment, and employee capability including continuous reviewing of performance against these five areas in liaison with other relevant people. Improvement initiatives in these five areas are usually developed and implemented with the support of technical support staff. Whereas other units may emphasise the competence to use one or more competitive practices, this unit emphasises the ability to advance on all five key areas over a moderate time period.

This unit requires the application of skills associated with problem solving and initiative and enterprise in order to identify opportunities to make improvements and maximise performance. Communication, the ability to work in a team and planning and organising skills are required to implement improvements and address any conflicts that arise. This unit also requires an ability to identify appropriate technology, and to consider and integrate feedback on how personal performance can be improved.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Contribute to the improvement of the operations system in team or work area	1.1	Identify key performance indicators for area of operations
		1.2	Implement and review competitive systems and practices to improve health, safety and environment (HSE) performance of self and others
		1.3	Implement and review competitive systems and practices to maximise quality consistency
		1.4	Implement and review competitive systems and practices and identify any skill and training issues that need to be addressed to improve capability of self and others
		1.5	Implement and review competitive systems and practices to maximise customer benefit/cost ratio
		1.6	Implement and review competitive systems and practices to reduce lead time to delivery within the scope of authority and responsibility
		1.7	Work with relevant stakeholders to resolve conflicts which arise from implementation of competitive systems and practices

- 1.8 Select improvements which will deliver the greatest overall benefit for the resources required/available without reducing current performance on individual factors

- 2 Implement improvements
 - 2.1 Implement the chosen improvement/s
 - 2.2 Check the selected improvements improve the system as a whole and do not result in unintended consequences
 - 2.3 Monitor implementation and make adjustments, as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others to clarify scope of implementation of competitive systems and practices, including:
 - value stream mapping
 - 5S
 - Just in Time (JIT)
 - mistake proofing
 - process mapping
 - establishing customer pull
 - kaizen and kaizen blitz
 - setting of key performance indicators/metrics
 - identification and elimination of waste (muda)
- monitoring performance in key areas, including:
 - HSE performance
 - quality consistency
 - capability and performance by team members
 - customer benefit/cost ratio
 - reduce lead time to delivery
- contributing suggestions for improvement
- analysing operational procedures in terms of flow and contribution to customer outcomes
- planning tasks to support competitive systems and practices implementation
- identifying and implementing appropriate data gathering and analysis techniques within area of responsibility to identify change over time in indicators relating to:
 - cost
 - quality
 - delivery
 - safety/environment
 - employee capability and support for competitive systems and practices
- solving problems to root causes

Required knowledge

Required knowledge includes:

- customers and the value they derive from products and processes of the organisation or area
- cost components and their relationship to customer benefits/features
- suppliers and their capabilities
- waste (muda)
- factors causing variability in a product and how to control them
- factors that promote standardisation
- relevant competitive systems and practices tools for area and how to apply them
- factors impacting on the product, process and waste, particularly those wholly or partially under own and other immediate area employees control (and how to control them)
- good HSE practice and factors impacting on HSE performance
- own capability and how to improve it
- optimisation techniques appropriate to the organisation and the job
- application of quality standards and processes

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • identify key performance indicators appropriate to their own work area • implement and review competitive systems and practices in own work, including interaction with others in the work area in the areas of: <ul style="list-style-type: none"> • HSE performance • quality consistency • capability and performance by team members • customer benefit/cost ratio • reduce lead time to delivery • select improvements that deliver the greatest overall benefit • monitor the implementation of improvements and make appropriate adjustments.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p>

	<p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning for appropriate portions • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for assessment</p>	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised wording**, if used in the

performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
<p>Competitive systems and practices tools</p>	<p>Competitive systems and practices tools include:</p> <ul style="list-style-type: none"> • 5S • 6 sigma • continuous improvement • cause effect diagrams

Customer	<p>Competitive systems and practices organisations encompass the entire production system, beginning with the customer, and includes:</p> <ul style="list-style-type: none"> • the product sales outlet • the final assembler • product design • raw material mining and processing • all tiers of the value stream (sometimes called the supply chain) <p>Customer may include:</p> <ul style="list-style-type: none"> • internal or external customers, and should also include the final customer as the basis for the identification of waste <p>The unit does not require interfacing directly with the external customer, but there should be sufficient information to identify customer benefits and features</p>
Supplier	<p>Supplier may include:</p> <ul style="list-style-type: none"> • an internal supplier • an external supplier <p>The unit does not require interfacing directly with external suppliers, but there should be sufficient information to enable identification of supplier abilities</p>
Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product. Categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • other activities which do not yield any benefit to the organisation or any benefit to the organisations customers
Operations	<p>Operations indicate:</p> <ul style="list-style-type: none"> • the holistic combination of the process, plant and equipment, procedures and practices, including the skills and work organisation of the workforce, which

	make up the productive organisation
Implement improvements	Implementation of improvements may be undertaken: <ul style="list-style-type: none">• within own job role• as part of processes and operations in the work area or team

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS403002A Ensure process improvements are sustained

Modification History

New unit, superseding MSACMS401A Ensure process improvements are sustained - Not equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to ensure that the gains which have been made by using improved methods, processes and equipment are sustained as the new baseline/standard for an area of work and so prevent regression to former practices, or digression to less efficient practices.

Application of the Unit

This unit applies to individuals working in a team or work area who have already implemented competitive systems and practices related improvements in their own work and who must work effectively with others implementing competitive systems and practices to ensure that performance improvement gains are sustained.

The unit is also suitable for individuals who have formal or informal responsibility for the work of others, such as team leaders; individuals, such as senior operators, who must mentor others; or individuals, such as technicians and tradespeople, who must integrate the application of their technical skills with the implementation of competitive systems and practices in an organisation.

The unit can be applied to all areas of an organisation, including production, maintenance, logistics and office functions.

The unit covers the implementation of practices to ensure that process improvements are sustained and opportunities taken to suggest further improvements. If mistake proofing is used as one of the methods for ensuring that process improvements are sustained, the unit MSS403051A Mistake proof a production process should be selected.

Improvement initiatives can be made by any of any number of methods and by teams or individuals. The unit assumes that desired levels of performance or quality are known.

This unit requires the application of skills associated with problem solving, initiative and enterprise, and planning and organising in order to check and monitor the impacts of change. It also requires communication and the ability to work with others to assess the impact of change in own work and on other's work, as well as self-management and learning to adapt improvements according to new information and feedback.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Examine previous improvements	1.1	Identify impact of previous process improvements to systems, equipment, operations or products in work area
		1.2	Identify improvements that have not met objectives
2	Ensure corrective actions are implemented	2.1	Identify corrective actions that can be taken on process improvements that have not met objectives
		2.2	Liaise with relevant people associated with the anticipated corrective action
		2.3	Obtain any required approvals
		2.4	Ensure the supply of resources
		2.5	Check impacts of corrective action on occupational health and safety (OHS), quality and environmental systems in work area and take action in accordance with procedures, if required
		2.6	Check that self and others in team or work area have required skills for corrective actions
		2.7	Monitor implementation of corrective action

- 2.8 Make required adjustments
- 3 Verify systems support improvement
 - 3.1 Ensure procedures reflect improvements
 - 3.2 Check that training and assessment activities in team or work area reflect improvements
 - 3.3 Liaise with relevant people to ensure their support of the new or modified system/s
- 4 Audit the change
 - 4.1 Determine an appropriate audit period/cycle
 - 4.2 Agree relevant measures/indicators for the improvement
 - 4.3 Measure performance at agreed times using agreed measures
 - 4.4 Investigate causes of under-performance
 - 4.5 Take appropriate corrective action to improve performance
 - 4.6 Re-audit the improvement on an agreed basis

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others to clarify scope and stage of implementation of competitive systems and practices and contribute suggestions for further improvements in implementation
- examining normal operational procedures in terms of flow and contribution to customer benefit
- planning own tasks, including the impact on others to support competitive systems and practices implementation
- implementing competitive systems and practices in own work area according to instructions
- identifying waste (muda)
- monitoring competitive systems and practices performance indicators for own work and work area

Required knowledge

Required knowledge includes:

- overall procedures for and process of operations relative to improvements being made
- appropriate measures of performance
- business performance goals sufficient to determine best measures of improved performance

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify process and operational changes as a result of implementation of competitive systems and practices • identify and assess impact of performance improvements in a work area against objectives • identify actions and resources required for further improvements • communicate and negotiate with others on
--	--

	<p>improvements</p> <ul style="list-style-type: none"> • apply procedures for seeking approvals and reporting non-conformances • determine appropriate period and procedures for monitoring implemented changes.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using some combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being</p>

	performed.
--	------------

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices
--	---

	<ul style="list-style-type: none"> the size of the enterprise the work organisation, culture, regulatory environment and the industry sector
Improvement	Improvement may be any change aimed at reducing waste (muda). This unit is not about making the improvements, but ensuring beneficial changes remain in place
Customers	<p>Customers may include:</p> <ul style="list-style-type: none"> internal or external customers, including final customers, as these should be used as the basis for the identification of value and waste <p>The individual does not need to interface directly with the external customer, but should be able to sufficiently identify customer benefit and customer features in processes and operations of their team and their work area</p>
Suppliers	<p>Suppliers may be:</p> <ul style="list-style-type: none"> internal or external suppliers and should be sufficiently close to the individual's work as to be easily identifiable <p>The operator does not need to interface directly with external suppliers, but should be provided with sufficient information to enable them to identify supplier contribution to their own work and to customer benefit</p>
Systems	<p>Systems are used to mean any/all of the equipment, processes, procedures and work practices that are used to produce the product. A term often used in this context includes:</p> <ul style="list-style-type: none"> kaizen - the philosophy of continual improvement that every process can and should be continually evaluated and improved in terms of time required, resources used, resultant quality and other aspects relevant to the process
Resources	<p>Resources for corrective actions may include:</p> <ul style="list-style-type: none"> equipment modifications consumables people suitable work area
Procedures	Procedures may include:

	<ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the organisation • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format
Improvements	<p>Improvements include:</p> <ul style="list-style-type: none"> • techniques for preventing mistakes by designing the operations process, equipment and tools so that an operation literally cannot be performed incorrectly (e.g. baka-yoke) • techniques that generate warning signals were a mistake is about to be performed (poka-yoke) <p>Improvements may be sustained by:</p> <ul style="list-style-type: none"> • use of technology so that it is impossible to do the job any other way • changes to process or procedures or other changes to the operations system which, if followed, will sustain the change and this unit may be applied to all these situations
Measuring performance	<p>Measuring improvements may include:</p> <ul style="list-style-type: none"> • personally taking measurements • arranging for measurements to be taken/made by appropriate personnel

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403005A Facilitate use of a Balanced Scorecard for performance improvement

Modification History

New unit, superseding MSACMS405A Lead a manufacturing team using a balanced score card approach - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to encourage and facilitate others in using a Balanced Scorecard approach to assist in performance improvement.

Application of the Unit

This unit applies in organisations using a Balanced Scorecard approach to performance improvement. In these organisations the unit applies to individuals in a team or workgroup who facilitate the use of the Balanced Scorecard through leading, assisting and/or motivating others in using the Balance Scorecard approach.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative, enterprise, and planning and organising in order to provide leadership in the interpretation, review and strategic response to Balanced Scorecard results. This unit has a strong emphasis on identifying and reviewing required performance measures and requires an ability to use new information to improve performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Interpret Balanced Scorecard results	1.1	Identify patterns of performance shown on strategy map
		1.2	Identify actions indicated by Balanced Scorecard results
		1.3	Discuss results with fellow employees and other relevant stakeholders
		1.4	Facilitate the selection of required actions with employees and other stakeholders
		1.5	Facilitate the development of implementation plans for team or individuals
		1.6	Facilitate the implementation of required actions from developed plans
		1.7	Follow up on implementation to ensure it occurs as planned
2	Review key performance indicators (KPIs) in the Balanced Scorecard for the organisation and work area	2.1	Relate area and other KPIs to strategy map/strategic objective
		2.2	Review the actions required by self and others to meet each KPI
		2.3	Compare current actions to the optimal actions to achieve strategy
		2.4	Discuss with employees and other stakeholders any

- 2.5 Recommend amendments to KPIs to relevant personnel
- 3 Review reporting systems for Balanced Scorecard information
 - 3.1 Review reporting systems to ensure information needed by self, other employees in area and organisation is available
 - 3.2 Review the mix of operational and strategic information to ensure it is appropriate for work area
 - 3.3 Review information provided for relevance and currency, and that it is meaningful and not excessive
 - 3.4 Recommend improvements to reports and reporting system, as appropriate
- 4 Lead improvement to work area total performance
 - 4.1 Compare actual performance of teams, work areas or individuals with desired total performance using KPIs and other Balanced Scorecard information
 - 4.2 Discuss with team ways of improving total performance
 - 4.3 Lead processes for improvement in total performance

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying KPIs and their application to own work and the work of other employees
- analysing Balanced Scorecard results and determining implications for a work area
- solving problems associated with use or interpretation of Balanced Scorecard
- planning strategies for use of Balanced Scorecard, including:
 - required communication with others
 - negotiations if any required with internal and external suppliers, customers and delegates
 - analysis of any skill gaps in self and others
 - required training
 - data collection
 - work organisation and procedure changes
 - risk identification and contingency measures
- communicating effectively in informal and formal meetings, and with personnel at all levels
- providing effective feedback

Required knowledge

Required knowledge includes:

- components of the Balanced Scorecard, including perspectives, feedback loops, targets and metrics, and reporting systems
- responsibilities of self and others in a Balanced Scorecard strategy
- health, safety and environment (HSE) principles and requirements for area of responsibility
- change implementation contacts and procedures relevant to work area
- employee assistance mechanisms in the organisation

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • interpret Balanced Scorecard results • review KPIs in the Balanced Scorecard • review related reporting systems • lead improvement to team performance.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case study and scenarios to assess responses to contingencies
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for</p>	<p>Assessment processes and techniques must be culturally</p>

assessment	appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
-------------------	---

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems ,including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p>
--	--

	<ul style="list-style-type: none"> the stage of implementation of competitive systems and practices the size of the enterprise the work organisation, culture, regulatory environment and the industry sector
Team	<p>Team includes:</p> <ul style="list-style-type: none"> all individuals in the target work area who are involved in the implementation and use of the Balanced Scorecard <p>The team may or may not be a formally designated team working to a team leader</p>
Balanced Scorecard	<p>The Balanced Scorecard refers to:</p> <ul style="list-style-type: none"> an approach to competitive systems and practices that sets out an organisations vision and strategy by establishing and measuring enterprise activity in a number of different perspectives in addition to the normal financial perspective <p>Perspective areas include:</p> <ul style="list-style-type: none"> customer environmental internal business process learning and growth <p>For each perspective area the Balanced Scorecard emphasises establishing and measuring performance (metrics)</p>
KPIs	<p>KPIs may include:</p> <ul style="list-style-type: none"> financial and non-financial performance measures against targets within the Balanced Scorecard other performance indicators not contained with the Balanced Scorecard for the team but relevant for informing the teams activities (e.g. performance indicators for other areas or sections, suppliers or customers)
Actions indicated	<p>Actions indicated may include:</p> <ul style="list-style-type: none"> corrective action for poor results confirming action for acceptable results taking steps to ensure actions for good results are consistently maintained changes to performance indicators or performance measurement

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS403010A Facilitate change in an organisation implementing competitive systems and practices

Modification History

New unit superseding MSACMC410A Lead change in a manufacturing environment - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by individuals responsible for facilitating change processes in an organisation implementing competitive operational practices.

Application of the Unit

This unit applies to people who facilitate the change process resulting from implementing one or more competitive systems or practices. This implementation may also be associated with other changes, such as the introduction of new products, processes or equipment. The unit will usually apply to people whose responsibility is at the team, area or section level rather than the whole organisation. The responsibility may be formally designated or be informal, as in mentoring and assisting fellow employees.

This unit assumes that consultation and agreement on the implementation of the competitive systems and practices and other associated changes has already occurred and the nature and extent of the change has been agreed.

This unit does not cover the negotiation of change in a formal industrial relations sense but does cover the skills needed to identify real or potential change implementation issues, including those that may need to be referred to formal consultation and/or dispute settlement procedures.

This unit has a strong emphasis on planning, encouraging and facilitating in a changing environment within the organisation, including using appropriate communication, teamwork, problem solving, initiative and self-management.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|--|-----|--|
| 1 | Define nature and impact of change for designated area and processes | 1.1 | Identify the organisation's aims and objectives for the competitive systems and practices techniques related to the change process |
| | | 1.2 | Identify opportunities for implementation of change within work area |
| | | 1.3 | Determine impacts of change for work area, including potential benefits and impacts on own work and work of fellow employees |
| 2 | Identify key performance indicators (KPIs) | 2.1 | Liaise, where required, with managers, engineers and other staff responsible for designing and/or implementing change |
| | | 2.2 | Identify KPIs for own work responsibility and that of the work area |
| | | 2.3 | Communicate KPIs to fellow employees |
| | | 2.4 | Check that data collection and processing are appropriate for KPIs |
| | | 2.5 | Raise and resolve issues related to KPIs with relevant personnel |

- | | | |
|---|---|---|
| 3 | Liaise with key stakeholders | 3.1 Identify key stakeholders impacted by the change |
| | | 3.2 Communicate with key stakeholders within scope of authority |
| | | 3.3 Identify and address issues and concerns of each stakeholder if within scope of authority |
| | | 3.4 Develop and/or locate information required to address key concerns |
| | | 3.5 Refer issues and concerns outside of scope of authority to appropriate personnel |
| 4 | Develop a strategy to help implement change | 4.1 Identify or develop a work plan for implementing change |
| | | 4.2 Make information required to support change available to team members |
| | | 4.3 Communicate/circulate draft work plan to other employees in work area, supervisors, technical experts and other appropriate personnel for comment |
| | | 4.4 Assess suggested changes and incorporate into work plan, where appropriate |
| 5 | Implement change | 5.1 Obtain authorisation to commence change implementation in accordance with organisation procedures |
| | | 5.2 Implement change in accordance with work plan and organisational occupational health and safety (OHS) and consultation procedures |
| 6 | Monitor implementation of change | 6.1 Maintain open communication channels with all stakeholders during implementation |
| | | 6.2 Monitor KPIs during implementation |
| | | 6.3 Encourage and facilitate improvement suggestions of team members |
| | | 6.4 Identify areas requiring improvement in change |

implementation

6.5 Make improvements to implementation according to organisation procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying the competitive operational practices being implemented in the organisation, including:
 - Just in Time (JIT) and kanban systems
 - preventative maintenance
 - 5S housekeeping
 - continuous improvement processes (e.g. kaizen)
 - waste (muda) elimination
 - formal problem solving procedures (e.g. root cause analysis (RCA))
- identifying other products, processes or equipment changes being implemented within area of responsibility
- identifying the work and culture changes required for effective implementation of the competitive systems and practices being implemented and other products, processes or equipment changes
- identifying organisation KPIs and contextualise for area of responsibility to determine successful change implementation
- planning strategies for change implementation, including:
 - required communication with others
 - negotiations if any required with internal and external suppliers, customers and delegates
 - analysis of any skill gaps in self and others
 - required training
 - data collection
 - work organisation and procedure changes
 - risk identification and contingency measures
- monitoring performance against KPIs and taking appropriate corrective action in the event of a non-conformance
- identifying and communicating with sources of assistance if difficulty is experienced with changes

Required knowledge

Required knowledge includes:

- features of common competitive operational practices, including:

- JIT and kanban systems
- preventative maintenance
- 5S housekeeping
- continuous improvement processes (e.g. kaizen)
- waste (muda) elimination
- formal problem solving procedures (e.g. RCA)
- health, safety and environment (HSE) principles and requirements for area of responsibility
- change implementation contacts and procedures relevant to work area
- employee assistance mechanisms in the organisation
- processes to develop work plans, including consideration of timetable, KPIs, training needs, OHS implications, contingency plans and responsibilities (the work plan must be capable of being coherently communicated to others)

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the competitive systems and practices used in their own work • identify changes to their own work flowing from the implementation of the relevant competitive systems and practices • implement changes • know when and how to seek assistance with work changes • make suggestions for improvements.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard

	<p>control/management</p> <ul style="list-style-type: none"> • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using some combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations
--	---

	<ul style="list-style-type: none"> • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Team	<p>Team may include:</p> <ul style="list-style-type: none"> • work teams from all sections of an organisation, including production or other operational areas, maintenance, technical, administration/finance, and sales/marketing
Change	<p>The philosophy of continual improvement is that every process can and should be continually evaluated and improved in terms of time required, resources used, resultant quality, and other aspects relevant to the process.</p> <p>Superimposed on this is the concept of breakthrough change when a large change/improvement is made which can shift the direction or operation of the organisation.</p>

	Once such breakthrough change is the introduction of competitive operational practices.
Work plan for change	<p>The work plan for change covers the designated work area and may include, depending on the organisation and work area processes:</p> <ul style="list-style-type: none"> • timetable • KPIs • training needs • OHS implications • contingency plans • responsibilities with team members and senior managers, engineers and other staff responsible for designing and/or implementing change
Issues and concerns	<p>Issues and concerns may be communicated formally and informally and may include:</p> <ul style="list-style-type: none"> • individual and group concerns • those expressed by and through industrial processes
Gathering and monitoring performance data	<p>Performance data may be gathered and monitored:</p> <ul style="list-style-type: none"> • manually by individual employees through charts, tally sheets or keypad/board entry • automatically through software, such as SCADA software, ERP systems, MRP and proprietary systems

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403011A Facilitate implementation of competitive systems and practices

Modification History

New unit, superseding MSACMC411A Lead a competitive manufacturing team - Not equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by individuals who facilitate, lead or mentor others in competitive systems and practices implementation in a work area.

Application of the Unit

This unit applies to people responsible for facilitating others in implementing competitive systems and practices in their work. It may apply to formally designated team leaders or people given special roles in the implementation process that go beyond their own work and which involve guiding, facilitating or mentoring others. The unit applies to competitive systems and practices implementation activities at the work area or section level.

The unit requires an individual to integrate a range of competitive systems and practices knowledge and skills as part of their role. The unit covers assisting others to understand and apply a holistic view of their job and their role within an organisation, including the objectives that must be met as part of competitive systems and practices used by the organisation.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management. This unit has a strong emphasis on planning and implementation, and also requires an ability to learn from experience and feed new information back into strategies to improve own performance and that of others.

For implementation of competitive systems and practices techniques in an office, the specialist unit *MSS403006A Facilitate implementation of competitive systems and practices in an office*, should be selected instead of this unit.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Facilitate the development of process and competitive systems and practices knowledge	1.1	Ensure necessary technical documentation and information about the process and competitive systems and practices is available
		1.2	Assist and mentor others in accessing information
		1.3	Identify work activities which may inhibit the ongoing development of competitive systems and practices skills and knowledge of others
		1.4	Arrange for the provision of workforce development and training for self and others, as appropriate
		1.5	Encourage others to apply technical knowledge to the improvement process
2	Facilitate commitment to efficiency improvements	2.1	Ensure budgets, operating procedures and other related documentation is available
		2.2	Assist others to apply this information to their work responsibilities
		2.3	Encourage the identification of waste
		2.4	Encourage an environment where efficiency improvements are recommended by fellow employees

- | | | | |
|---|--|-----|---|
| 3 | Encourage a competitive systems and practices approach to work | 3.1 | Encourage and, where necessary, develop communications between specialists and work group members |
| | | 3.2 | Lead development of strategies to monitor and deal with identified waste issues |
| | | 3.3 | Resource and encourage other employees to identify and take appropriate action on potential problems |
| | | 3.4 | Arrange for workforce development and training for self and others, as required, in relevant competitive systems and practice procedures and techniques |
| | | 3.5 | Guide others in relating identified problems to the maintenance strategy, and developing any required changes, to ensure awareness, learning and commitment |
| | | | |
| 4 | Implement process and organisation improvements | 4.1 | Plan the implementation of work group suggestions and externally suggested improvements |
| | | 4.2 | Facilitate commitment to, and involvement in, the implementation planning of improvements and to follow improvements to their conclusion |
| | | 4.3 | Encourage the application of the 'plan, do, measure, improve, control' approach to the job |
| | | 4.4 | Arrange for workforce development and training, as required, to facilitate continued involvement by others in improvement processes |
| | | 4.5 | Involve work group and other key personnel in identification of skill needs and means of skills acquisition to fill any identified gaps |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- facilitating goals, activities, communications and access to resources, including process mapping
- solving problems
- identifying waste (muda)
- data gathering and analysis
- explaining and leading others in implementation at the work group level of:
 - value stream mapping
 - 5S
 - Just in Time (JIT)
 - mistake proofing
 - process mapping
 - establishing customer pull
 - kaizen and kaizen blitz
 - setting of key performance indicators (KPIs)/metrics
 - identification and elimination of waste (muda)
- communicating effectively to conduct informal and formal meetings, and to relate to personnel at all levels
- providing effective feedback
- effectively encouraging team spirit and morale
- transferring knowledge and skills through informal one-on-one mentoring

Required knowledge

Required knowledge includes:

- information technology systems used in the organisation
- principles of competitive systems and practices and their application to the organisation, including:
 - value stream mapping
 - 5S
 - JIT
 - mistake proofing

- process mapping
- establishing customer pull
- kaizen and kaizen blitz
- setting of KPIs/metrics
- identification and elimination of waste (muda)
- monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP), and proprietary systems, which may be used within the organisation
- methods of gathering data against KPIs, such as:
 - waste walk
 - document tagging
 - tracking/log sheets
 - spaghetti diagrams
 - existing information technology and enterprise resource systems (e.g. SCADA, ERP and MRP)
- facilitation techniques to encourage team development and improvement
- organisational policies, plans and procedures

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify processes and products of their organisation and work area • analyse current and future skill development needs of team • act as an effective communication link between team and internal and external competitive systems and practices specialists and managers • lead team in identifying efficiency improvements and elimination of waste.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area

	<ul style="list-style-type: none"> • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of

the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as SCADA software, ERP systems, MRP and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
<p>Budgets</p>	<p>Budgets include:</p> <ul style="list-style-type: none"> • financial • time • materials/products • other business plans which are relevant to the team and the work area
<p>Waste</p>	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not</p>

	<p>contribute to customer benefit/features in the product. Categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers
Key reliability issues	<p>Key reliability issues include those which are most likely to lead to failure, such as:</p> <ul style="list-style-type: none"> • cleanliness • poor lubrication • incorrect adjustment • poor training and instructions for employees

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403013A Lead team culture improvement

Modification History

New unit, superseding MSACMC413A Lead team culture improvement - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by a team leader or other person responsible for developing a culture within a team appropriate for supporting competitive systems and practices.

Application of the Unit

This unit applies where an organisation has embarked on competitive systems and practices and a team leader or other responsible person is required to change or improve the team culture to be consistent with that required to maximise the benefits from competitive systems and practices.

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management in order to provide leadership in a changing team environment. This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Facilitate the team's understanding of the competitive systems and practices strategy	1.1	Communicate with all team members the objectives and benefits of the competitive systems and practices strategy
		1.2	Review with team members the techniques and methods that will be used in achieving the competitive systems and practices strategy
		1.3	Using a systems approach, help team members understand how the team fits into the organisation
		1.4	Establish appropriate communication and teamwork within the team and with other teams
		1.5	Develop a work structure with the team that allows for everyone to participate in the application of the competitive systems and practices strategy
2	Facilitate application of knowledge about the importance of controlling variation in competitive systems and practices	2.1	Develop the application of a statistical approach by all team members to all relevant facets of the system with a view to reducing variation
		2.2	Encourage the approach of building quality and ensuring team members assist each other in meeting requirements

- | | | | |
|---|--|-----|---|
| 3 | Facilitate the development of skills and knowledge within the team | 3.1 | Encourage appropriate training for all team members |
| | | 3.2 | Involve team members in identification of skill needs and skill gaps, and in development of a strategy for training, skills acquisition and self-improvement so as to ensure awareness, learning and commitment |
| 4 | Facilitate the development of commitment within the team to the competitive systems and practices strategy | 4.1 | Ensure that the team has sufficient resources and adequate equipment available to meet the requirements of the competitive systems and practices strategy |
| | | 4.2 | Encourage the adoption of continuous improvement |
| | | 4.3 | Encourage employee acceptance of responsibility for the quality of their own work |
| | | 4.4 | Provide continuous feedback and communication of progress at all levels in implementing the strategy |
| | | 4.5 | Involve team members in relating identified problems and opportunities for improvement to the competitive systems and practices strategy, and involve them in developing any required changes, to ensure awareness, learning and commitment |
| | | 4.6 | Establish and monitor indicators of team culture |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying and interpreting team quality standards and customer requirements
- identifying the competitive operational practices being implemented by the team
- communicating with others in the team, other team leaders, other employees and external representatives relevant to team competitive systems and practices
- ensuring team awareness of performance against requirements (e.g. through visual management techniques)
- facilitating team competitive systems and practices review activities
- solving problems to root cause
- identifying and accessing sources of assistance if difficulty is experienced with team implementation of competitive systems and practices
- interpreting relevant procedures and instructions
- identifying, analysing and evaluating information from a variety of sources

Required knowledge

Required knowledge includes:

- competitive systems and practices strategies at a broad level, including theoretical concepts of one or more of:
 - six sigma
 - lean manufacturing/lean operations
 - agile manufacturing/agile operations
 - Just in Time (JIT)
 - supply chain management
 - value stream management
 - total quality
 - proactive maintenance
 - elimination of waste
 - Balanced Scorecard
 - 5S housekeeping
 - visual factory/visual operations
- benefits of:
 - standardised work

- customer pull
- value stream mapping
- principles of change management

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the competitive systems and practices used by the team • identify changes to their own work flowing from the implementation of the relevant competitive systems and practices • implement and monitor changes designed to improve team culture • know when and how to seek assistance • make suggestions for improvements.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace

	<ul style="list-style-type: none"> • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control
--	---

	<p>systems</p> <ul style="list-style-type: none"> • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Variation	<p>Variation refers to:</p> <ul style="list-style-type: none"> • variation from quality standards and customer requirements as expressed in production or operations schedules and technical specifications
Systems approach	<p>A systems approach enables a person to see how work gets done, the effect of changes and shows the internal/external relationships through which products and services are produced. It may include considerations of the role and requirements of:</p> <ul style="list-style-type: none"> • customers • suppliers • employees • other value stream members • members of the public and community groups • other external individual, group or organisation • technical processes and equipment • statutory and regulatory requirements, including occupational health and safety (OHS) and environment legislation and regulations • quality standards

Team culture	<p>Team culture change is the extent to which the culture of the team is aligned to the goals of customers and the organisation. Team culture may be monitored by:</p> <ul style="list-style-type: none"> • surveys • evaluation of toolbox or other regular meetings • direct discussion with team members • monitoring of other indicators (e.g. error rates and absenteeism) • analysis of root cause related to status of team culture
Work structures	<p>The work team structure may vary (e.g. be self-directed, cross-functional, and so on, and should be appropriate to the job)</p>

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403021A Facilitate a Just in Time system

Modification History

New unit, superseding MSACMT421A Facilitate a Just in Time (JIT) system - Equivalent

Unit Descriptor

This unit of competency covers skills and knowledge required to facilitate the implementation/operation of a Just in Time (JIT)/kanban system in a team or work area.

Application of the Unit

This unit applies to a person who needs to monitor the operation of a JIT system and facilitate its working in a team or work area. This will involve liaison with stakeholders as well as examining the data generated. They will need to be alert to potential problems and areas for improvement.

This unit requires the application of skills associated with gathering, analysing and communicating information to facilitate implementation of the JIT system. It requires planning and organising skills and has a strong emphasis on communication and teamwork skills to ensure the JIT system is being effectively implemented. This unit also requires the ability to problem solve and take the initiative to consider performance issues and learn from experience to improve future performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Monitor the operation of the JIT system	1.1	Track value of key measures
		1.2	Recognise indicators of poor performance
		1.3	Take appropriate quick fix action
2	Liaise with relevant stakeholders	2.1	Regularly communicate with team or work group members regarding the operation of the JIT system
		2.2	Review JIT key performance indicators (KPIs) with team or work group members
		2.3	Communicate with relevant personnel up and down the value stream regarding the operation of the JIT system
		2.4	Identify issues with stakeholders and take appropriate quick fix action
3	Improve the JIT system	3.1	Identify areas requiring improvement in the JIT system
		3.2	Identify root cause of JIT-related problems
		3.3	Review value of key measures
		3.4	Recognise skill gaps in team members and other stakeholders
		3.5	Determine any other issues in team or work group, other stakeholders and JIT system leading to poor performance indicators
		3.6	Develop appropriate improvement solutions

- 3.7 Liaise with relevant people regarding improvement solutions
- 3.8 Implement and/or assist with the implementation of the solutions

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying KPIs for JIT system in team or area of responsibility
- analysing the JIT/kanban implementation in the team or area and the relevant sections of the internal and external value stream, including identifying people-related needs and issues
- identifying and implementing quick fix to JIT problems
- using formal problem solving procedures (e.g. root cause analysis (RCA))
- developing formal and informal communication procedures with others in work area, team leaders, other employees and value stream members relevant to JIT implementation
- establishing sources of assistance in the organisation for people experiencing difficulty with competitive systems and practices changes
- interpreting procedures and instructions relevant to own expertise for others
- establishing KPIs for own work

Required knowledge

Required knowledge includes:

- JIT principles relevant to operations and processes in own area or team and in the organisation generally
- procedures for making/recommending improvements
- typical reasons for delays/storages/inventories in the team or area of responsibility and methods of reducing/eliminating them
- skill gap analysis and methods of filling skill gaps
- principles of the operations process relevant to the section/team
- production data generated by the process and its application to JIT

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	Evidence should be available of the person's facilitation of the operation of the JIT system and their making of recommendations for/making improvements.
-------------------------------	---

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the JIT system and practices used in their team or area of responsibility • identify and monitor JIT key measures • solve JIT-related problems to root cause • implement and monitor JIT-related changes to operations and practices.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and</p>

	disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree
--	--

	<p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
JIT	<p>JIT refers to:</p> <ul style="list-style-type: none"> • a production scheduling concept that calls for any item needed at a production operation (whether raw material, finished item, or anything in between) to be produced and available precisely when needed, neither a moment earlier nor a moment later
Kanban	<p>Kanban is a card or sheet used to authorise production or movement of an item; when fully implemented, kanban operates according to the following rules:</p> <ul style="list-style-type: none"> • all production and movement of parts and material take place only as required by a downstream operation (i.e. all operations and procurement are ultimately driven by the requirements of final assembly or the equivalent) • the specific tool which authorises production or movement is called a kanban. The word literally means card or sign, but it can legitimately refer to a container or other authorising device. Kanban have various formats and content as appropriate for their usage (e.g. a kanban for a vendor is different than a kanban for an internal machining operation) <p>Kanban is typically applied to batch type operation and the production is measured in units produced. In continuous processing organisations, production is measured in terms of production rate (e.g. kg/h, tonne/day) and rate is increased/decreased according to the flow authorisation which may be a kanban (e.g. ticket, order from a supplier) or may be a SCADA signal from a remote facility (e.g. customer tank) saying that resupply is required or similar</p>
SCADA	<p>SCADA refers to:</p> <ul style="list-style-type: none"> • a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and/or give required information to personnel for action

Key measures	<p>Key measures may include:</p> <ul style="list-style-type: none"> • inventory levels • lead time • In Full, On Time and In Specification (IFOTIS) delivery • productivity/production rate • other measures of pull through the value stream • quality
Quick fix	<p>Quick fix refers to:</p> <ul style="list-style-type: none"> • action taken to immediately and cheaply control a problem, prevent it getting worse and/or ameliorate its impact, but which does not necessarily solve it long term
Pull system	<p>Pull refers to:</p> <ul style="list-style-type: none"> • a system of making to demand rather than for stock or to a forecast
Value stream	<p>The value stream begins with the customer and includes all actions (both value-adding and non-value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement, stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403023A Monitor a levelled pull system of operations

Modification History

New unit, superseding MSACMT423A Monitor a manufacturing levelled pull system* - Not equivalent

* Prerequisite *MSACMT280A- Undertake root cause analysis* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required to monitor the operation of a pull system in a work area and recommend improvements.

Application of the Unit

This unit covers the skills needed to monitor a pull operations system in a work area or team operation although knowledge of the overall pull system in the enterprise is also required. The unit is targeted at individuals, such as team leaders and senior operators, who have an overview of the work area or team operation and the ability to implement corrective action in the event of discrepancies.

The unit covers the skills needed to monitor daily working of the system, identify problems and take appropriate action on problems. The operations system may be a total demand pull system or it may be a mixed push/pull system.

This unit primarily requires the application of skills associated with using information and problem solving skills to monitor pull system and analyse discrepancies. It also requires skills in initiative and enterprise, and planning and organising to determine and act on opportunities for improvement. Aspects of self-management and learning are required to ensure own ability to improve systems.

The unit is based on manufacturing principles but can be contextualised for other types of organisations. For pull systems in an office environment the unit MSS405033A Optimise office systems to deliver to customer demand, should be used.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Monitor the pull system	1.1	Identify the pacemaker process
		1.2	Identify rate of production set by the pull system
		1.3	Determine actual rate of production at key parts of the process
		1.4	Identify types of inventories within process
		1.5	Compare actual inventories with planned inventories
		1.6	Note discrepancies between actual and planned rates and inventories
2	Take corrective action	2.1	Determine causes of discrepancies
		2.2	Determine action required to rectify causes of discrepancies
		2.3	Take appropriate action in conjunction with relevant stakeholders
3	Test/improve the pull system	3.1	Identify recurrent discrepancies
		3.2	Determine causes of discrepancies
		3.3	Determine action required to rectify cause

- 3.4 Identify unnecessary levels of inventories
- 3.5 Discuss impacts of reduced inventories with relevant stakeholders
- 3.6 Take/initiate appropriate action to rectify recurrent discrepancies/reduce levels of unnecessary inventory
- 3.7 Monitor the system to determine the effects of changes

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying order process used by the team or in work area
- analysing processes and cycle times and determining the pacemaker process
- distinguishing between pacemaker process and bottlenecks
- distinguishing between cycle stock, buffer stock and safety stock
- leading processes to identify causes of discrepancies
- considering a range of appropriate action in the event of discrepancy, including considering the appropriateness of changes to:
 - production processes
 - cycle times
 - equipment and set-up
 - work organisation
 - training and skill development of employees
 - the delegations and authority of the team members or employees in work area and team or work group leader to influence the actions required, for example:
 - actions which can be sanctioned by the individual team member
 - actions which can be sanctioned by the team or work group leader
 - actions requiring management sanction
 - actions requiring expert intervention

Required knowledge

Required knowledge includes:

- operations and equipment used in the enterprise
- capabilities of equipment
- abilities and skills of personnel
- ultimate customer order process and relationship to demand pull for team or area
- inventories held by enterprise
- stakeholders relevant to team or area
- a range of possible actions available to address discrepancies

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the demand pull system used in their area or team • identify pacemaker process • identify types of inventories used by team or area • determine appropriate actions to rectify discrepancies between actual and planned rates of production • implement and monitor changes to rectify discrepancies.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence

	<p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE)
--	---

	<ul style="list-style-type: none"> • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Pull system	<p>A pull system in a operations system is one where:</p> <ul style="list-style-type: none"> • operations are done to order and not for holding large inventories of parts and completed stock • work flow is done according to demand pull from the next work stage • operations are in response to customer demand <p>The pull system must be flexible and have cycle times set by parameters calculated from customer demand indicators</p>
Production	<p>Production in this unit is primarily used in a manufacturing sense and may include:</p> <ul style="list-style-type: none"> • repetitive production of items (e.g. components and whitegoods) • continuous or batch production (e.g. hydrocarbons, chemicals and cement) <p>The term production may also be contextualised to allow for the unit to be applied to divisions or organisations supplying supporting services (e.g. transport and logistics, and utilities)</p>
Pacemaker	<p>Pacemaker processes refer to:</p> <ul style="list-style-type: none"> • process or scheduling points which sets the pace for the flow of operations through the enterprise. It needs to be distinguished from processes which are temporarily setting the pace for other processes because of faults, breakdowns, inefficiencies, poor design and/or waste. These should be categorised as bottlenecks and made targets for corrective action.

Types of inventories	<p>Inventories within process may include:</p> <ul style="list-style-type: none"> • cycle stock which reflects the replenishment quantity and frequency • buffer stock to meet demand variability and forecast errors • safety stock required to guard against quality and delivery failures upstream
Determine cause	<p>Determine cause may include the individual/team leader:</p> <ul style="list-style-type: none"> • analysing cause themselves • identifying that expert analysis is required and requesting this analysis • setting up an improvement team to analyse cause • identifying that the cause of the discrepancy is upstream or downstream of the team or area
Action required	<p>Action required includes:</p> <ul style="list-style-type: none"> • actions to align actual and planned rates of production and inventories. The actions will vary and will depend on assessment of the discrepancy and the nature of the operation
Stakeholders	<p>Stakeholders include:</p> <ul style="list-style-type: none"> • managers • supervisors • employees • shareholders • occupational health and safety (OHS) mechanisms/representatives • industrial relations mechanisms/representatives • suppliers • customers • service providers

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403030A Improve cost factors in work practices

Modification History

New unit, superseding MSACMT430A Improve cost factors in work practices - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to evaluate the product or process outcomes of a team in terms of their cost components and to be able to determine, in general terms, the cost impacts of alternative actions.

Application of the Unit

This unit applies to a person who is required to assess the relative costs of alternatives and use this as one of the key factors in decision making. Typical decisions include the efficient organisation of own work and that of others in a work area or within a team and the improvement of throughput and cycle times.

Decisions are made within the scope of the authority of the individual and other employees in the area or team and according to procedures.

This unit primarily requires the application of skills associated with communication and information gathering, teamwork and problem solving to analyse the cost components of work processes. Initiative and enterprise, and planning and organising are also required to identify opportunities for improved cost-efficiency. This unit also requires a degree of self-management and learning to effectively operate and maintain skills and performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse cost components of work area or team function	1.1	Identify cost components in the product or process
		1.2	Identify costs factors under control of area or employees in the team
		1.3	Identify causes of variability in costs
		1.4	Analyse impact of costs on production or process activities undertaken
2	Improve cost-efficiency of processes and procedures	2.1	Identify methods of improving productivity and/or reducing costs within area or team's responsibility
		2.2	Determine cost/benefit ratio of alternative methods of improving productivity and/or reducing costs
		2.3	Consult with all relevant stakeholders regarding possible changes
		2.4	Recommend changes which will increase productivity and reduce cost and variability
		2.5	Implement recommended changes in consultation with relevant stakeholders

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying fixed and variable costs in products or processes
- analysing costs and determining those that can be controlled by the individuals in an area or team
- analysing costs over time and identifying variability in cost components
- determining cost/benefit ratios
- communicating and negotiating with others on changes using a variety of mediums

Required knowledge

Required knowledge includes:

- cost components of products made
- costs concepts, such as expense, income and cost/benefit
- major cost contributors to product (e.g. energy, materials, labour and distribution, and so on) depending on the product and process)
- the difference between internally and externally controlled costs
- difference between overhead, labour and consumables

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the scope of their own work and the team or area work and relate it to the overall flow of work in the organisation • express cost factors in specific terms (e.g. cost per item, process and task) • identify and express cost factors in basic financial
--	--

	<p>terms</p> <ul style="list-style-type: none"> analyse variability in costs and recommend improvements use cost/benefit to select preferred improvement strategies.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> workplace procedures and plans relevant to work area specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee documentation and information in relation to production, waste, overheads and hazard control/management reports from supervisors/managers case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> demonstration in the workplace workplace project(suitable simulation case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) targeted questioning reports from supervisors, peers and colleagues (third-party reports) portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being</p>

	performed.
--	------------

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices,
--	--

	<ul style="list-style-type: none"> • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Cost components	<p>Cost components may include:</p> <ul style="list-style-type: none"> • fixed and variable costs, such as power/energy, materials, plant and equipment, salary and wages, and office expenses (e.g. telephone) • government taxes and charges
Variability in costs	<p>Variability in costs should be assessed over a suitable time. The time should be sufficient to identify:</p> <ul style="list-style-type: none"> • fluctuations in variable costs related to different volumes of sales, production or operations • abnormal cost fluctuations due to poor design of product or process, poor scheduling, faults, breakdowns and other waste
Process	<p>Process includes all functions that go to meet customer requirements as well as other required functions (e.g. regulatory related functions). Examples include:</p> <ul style="list-style-type: none"> • design • production • maintenance • logistics • office processes
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • drawings and specifications • manuals • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the organisation • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer based or in some other format
Benefits	<p>Benefits should include:</p>

	<ul style="list-style-type: none">• positive benefits as well as negative benefits, such as quality, safety, reliability and similar issues which may be impacted by a cost saving
--	--

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403032A Analyse manual handling processes

Modification History

New unit, superseding MSACMT432A Analyse manual handling processes - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to analyse manual handling in terms of its efficiency and safety.

Application of the Unit

This unit applies to an individual who is required to examine the manual handling component of a job and improve it in terms of safety, effort required and efficiency. This may be conducted for a job performed by others or it may be for the person's own job.

This unit primarily requires the application of skills associated with problem solving, initiative and enterprise to identify safe and efficient manual handling, and planning and organising to ensure processes are implemented. This unit also requires communication with, and involvement of, others to ensure they understand the approach and to facilitate training.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Assess manual handling risks	1.1	Identify manual handling hazards in work area
		1.2	Assess risks arising from manual handling hazards
2	Analyse physical effort requirements of job	2.1	Determine basic manual handling requirements of job
		2.2	Analyse requirements in terms of components, such as lift, move, place and hold
		2.3	Analyse items to be handled in terms such as weight, size, shape or other hazards
3	Determine time/effort components of physical effort	3.1	Break required movement pattern down into movement components
		3.2	Determine time and effort requirements for movements
		3.3	Develop alternative movement patterns
		3.4	Determine time and effort requirements for alternative movements
		3.5	Determine handling aids required to assist movement
		3.6	Determine preferred movement pattern

-
- | | | | |
|---|---|-----|---|
| 4 | Analyse the ergonomics of physical effort | 4.1 | Analyse the ergonomics of the preferred movement pattern |
| | | 4.2 | Develop substitute movements for any movement which is not ergonomically sound |
| | | 4.3 | Determine handling aids required to improve ergonomics of required movements |
| 5 | Optimise application of physical effort | 5.1 | Select movement patterns which are ergonomically sound and time and effort efficient |
| | | 5.2 | Ensure all relevant people are trained to use these methods |
| | | 5.3 | Ensure procedures and practices reflect the optimum methods |
| | | 5.4 | Communicate with team members and involve them in development of alternatives to ensure awareness and facilitate learning |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others about work processes and jobs
- identifying ergonomically sound and unsound movements both at a general level and related to individual capability
- analysing manual handling processes
- working cooperatively with others
- demonstrating or arranging to have demonstrated ergonomically correct movements
- applying basic mathematics
- solving problems

Required knowledge

Required knowledge includes:

- relevant occupational health and safety (OHS) Acts and regulations as applied to manual handling
- principles of job and work method design as applied to efficient and safe movement
- principles of work analysis
- principles of ergonomics/safe movement
- aids than can assist with or substitute for manual handling

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • analyse manual handling requirements and risks in jobs • distinguish between ergonomically sound and unsound movement
--	---

	<ul style="list-style-type: none"> analyse manual handling movements and risks for an individual relate manual handling requirements to job efficiency.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> workplace procedures and plans relevant to work area specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee documentation and information in relation to production, waste, overheads and hazard control/management reports from supervisors/managers case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using some combination of the following to generate evidence:</p> <ul style="list-style-type: none"> demonstration in the workplace workplace projects suitable simulation case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) targeted questioning reports from supervisors, peers and colleagues (third-party reports) portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being</p>

	performed.
--	------------

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices
--	---

	<ul style="list-style-type: none"> • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and Responsible Care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format
Manual handling hazards	<p>Manual handling hazards may include:</p> <ul style="list-style-type: none"> • loads that pose a risk of injury • ergonomically unsound movements • hazard requirements as defined by relevant OHS Acts and regulations, industry standards and best practice
Ergonomically unsound movements	<p>Ergonomically unsound movements may include:</p> <ul style="list-style-type: none"> • awkward and repetitive movements • carrying, pushing, pulling or lifting of heavy loads • carrying or movement against hard, sharp, slippery or other difficult to grasp loads <p>Ergonomically unsound movements should be assessed against the capabilities of individual workers as what is a sound movement for one worker may be unsound for others depending on physique and individual condition</p>
Ergonomically sound movements	<p>Ergonomically sound movements are movements which decrease the risk of injury. Sound movements will vary according to the load and individual. Examples include:</p> <ul style="list-style-type: none"> • keeping loads close to the body and near the person's centre of gravity • using diagonal foot positions for lifting • moving loads at waist height rather than directly from the floor

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS403040A Facilitate and improve implementation of 5S

Modification History

New unit, superseding MSACMT440A Lead 5S in a manufacturing environment - Not equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to facilitate the implementation and improvement of the 5S by self and others in a team or work area.

Application of the Unit

This unit applies to individuals who facilitate 5S in a team or work area, including implementation, monitoring and improvement. The facilitation may be undertaken by formally designated supervisory staff, such as team leaders or other individuals in a competitive systems and practices implementation role, who need to provide support and encouragement to others to facilitate the achievement of 5S outcomes in the workplace. This unit requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, planning and organising, and self-management in order to provide leadership in a 5S environment. This unit has a strong emphasis on planning and change management, but also requires an ability to learn from experience and feed new information back into strategies to improve performance. For planning, implementing and leading the application of 5S in an office environment see unit *MSS403039A Facilitate and improve 5S in an office*.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Facilitate the set-up of 5S	<ul style="list-style-type: none"> 1.1 Assist others to determine what are necessary and unnecessary items in the work area 1.2 Assist others to determine optimum assigned location for all necessary items 1.3 Liaise with relevant production and occupational health and safety (OHS) personnel in determining optimum locations 1.4 Assist others to determine optimum location for unnecessary items 1.5 Assist others to determine 5S schedule 1.6 Ensure procedures reflect 5S practices 1.7 Assist others to achieve the required level of skill
2	Facilitate the implementation of 5S	<ul style="list-style-type: none"> 2.1 Ensure procedures reflect 5S practices 2.2 Assess skill base of team or work group members in 5S and arrange for any required training 2.3 Ensure that any damage and/or safety risks reported by the team or work group are addressed through correct mechanisms

- 3 Monitor 5S
 - 3.1 Check work area for 5S implementation as part of normal routine
 - 3.2 Identify non-conformances
 - 3.3 Negotiate solutions to non-conformances

- 4 Improve 5S
 - 4.1 Work with others to find areas for improvement
 - 4.2 Assist others to develop improvement solutions
 - 4.3 Facilitate the availability of resources required for the improvement solution
 - 4.4 Facilitate the implementation of the improvement solution

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with other employees and managers to engender commitment to achieving 5S outcomes, conduct formal and informal meetings and to explain 5S and related concepts
- facilitating team or work area goals, activities and communications and accessing resources
- visualising normal operational procedures in terms of flow and contribution to customer outcomes
- planning and prioritising activities
- problem solving to determine potential improvements to the 5S system
- reading and interpreting the application of operating procedures for jobs within team or target work area
- analysing work practices, procedures and 5S principles to facilitate setting up the 5S system and to identify improvements
- identifying gaps in skills and/or knowledge and options to address them

Required knowledge

Required knowledge includes:

- principles and purpose of 5S
- methods of identifying waste in the work area, such as:
 - waste walk
 - document tagging
 - tracking/log sheets
 - spaghetti diagrams
 - existing information technology and enterprise resource systems (e.g. Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems
- organisational policies, plans and procedures
- processes for identifying and addressing skill gaps
- ways of encouraging team members to find and suggest areas for improvement
- methods of identifying and evaluating options and making/recommending improvements
- methods of accessing required resources
- OHS requirements relevant to team and work area

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the scope of the services and/or functions supplied to and by the team or work area and the deliverables expected by customers, including the ultimate customer • facilitate a systematic approach to implementing 5S • lead and motivate others in achieving 5S outcomes and making improvements to the 5S systems • set up systems for monitoring and improving 5S implementation • manage non-conformances in implementation of 5S.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on)

	<ul style="list-style-type: none"> • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as SCADA software, ERP systems MRP and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz)
--	--

	<ul style="list-style-type: none"> • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and Responsible Care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format
5S	<p>5S is a system of work organisation originally developed in Japan based around a close translation of the five stages in the housekeeping approach is:</p> <ul style="list-style-type: none"> • sort • set in order • shine • standardise • sustain
Sort	<p>Sort involves keeping only what is absolutely necessary for the work processes that comprise the job and includes:</p>

	<ul style="list-style-type: none"> clearing the work area of all non-essential items <p>Non-essential items are items not required to either produce product, conduct process or operations or make required adjustments to equipment during process or operations</p>
Set in order	<p>Set in order includes:</p> <ul style="list-style-type: none"> assigning required equipment and materials appropriate locations in the work area
Shine	<p>Shine includes:</p> <ul style="list-style-type: none"> keeping the work area clean at all times. This should be carried out to a regular daily schedule against allowed time, usually at the end of the day or of a particular process <p>Cleaning includes:</p> <ul style="list-style-type: none"> noting any signs of wear, damage, leakage, safety risks or other issues that require immediate attention
Standardise	<p>Standardising includes:</p> <ul style="list-style-type: none"> activities that help maintain the order and the housekeeping standards using procedures and checklists developed from a procedure
Sustain	<p>Sustain includes:</p> <ul style="list-style-type: none"> making sure that daily activities are completed every day regardless of circumstance undertaking inspections, including: <ul style="list-style-type: none"> informal inspections that should be carried often, at least weekly generating continuous improvement actions from daily activities formal inspections that should be carried out at least monthly
Items in work area	<p>Items in work area may include:</p> <ul style="list-style-type: none"> tools jigs/fixtures materials/components plant and equipment manuals personal items (e.g. bags, lunch boxes and posters) safety equipment and personal protective equipment

	<ul style="list-style-type: none"> • other items which happen to be in the work area
Team	The term team is used to apply to all individuals in the target work area who are involved in the implementation of 5S. The team may or may not be a formally designated team working to a team leader
Work area	<p>The work area includes:</p> <ul style="list-style-type: none"> • all areas where aspects of the job are performed and that are under the direct control of the employee. In a team environment 5S should be applied to all work areas under the control of the team
Target work area	<p>The target work area may be identified as a physical and/or virtual work space:</p> <ul style="list-style-type: none"> • used by a person, a team or a cross-functional group • common to part/s of a process or value stream (already defined) • shared by people who undertake a defined procedure or set of procedures • needed to support a particular function
Appropriate place	<p>Appropriate places may include areas designated for:</p> <ul style="list-style-type: none"> • recycling • rubbish removal • staff room/lunch room/kitchen • storage • holding area until status is confirmed
Optimum assigned location	<p>The optimum assigned location may include:</p> <ul style="list-style-type: none"> • making changes to the layout of furniture, equipment and personnel in order to facilitate the smooth and continuous flow of work through process steps taking into account OHS considerations
Non-conformance	<p>Non-conformance includes:</p> <ul style="list-style-type: none"> • incorrect or incomplete application of 5S procedures, including any daily tasks, scheduled inspections and continuous improvement procedures

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403041A Facilitate breakthrough improvements

Modification History

New unit, superseding MSACMT441A Facilitate continuous improvement in manufacturing - Not equivalent

Unit Descriptor

This unit of competency covers the knowledge and skills required to facilitate implementation of discrete targeted improvement activities to achieve breakthrough improvements in selected processes, operations or products. Typically this approach is used for improvements in areas of waste identified through value stream mapping.

Application of the Unit

This unit applies to team leaders and others who are providing guidance and support to assist a team of employees to identify improvements that can be implemented to operations, processes or products in a brief intensive project.

The unit also covers ensuring that the improvements are sustained. The process of achieving breakthrough improvements is often called kaizen blitz in lean terminology.

This unit assumes that one or more processes and operations have been mapped.

MSS403033A Map an operational process may also need to be selected if this is not the case. For facilitation of breakthrough improvements in an office see unit *MSS403043A Facilitate breakthrough improvements in an office*.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|-------------------------------|-----|--|
| 1 | Prepare for improvement event | 1.1 | Engage team members in the improvement event |
| | | 1.2 | Identify process or processes to be targeted in the improvement event |
| | | 1.3 | Assist team members to identify how their own roles contribute to value to the customer |
| | | 1.4 | Assist team to identify the boundaries of the event, including any imposed exclusions |
| | | 1.5 | Identify key process indicators and other information required for improvement event |
| | | 1.6 | Identify skill needs for personnel engaged in breakthrough improvement event and arrange for any required training |
| | | 1.7 | Establish communication processes with sponsor and stakeholders |
| 2 | Identify improvements | 2.1 | Assist team to review current processes, operations or products and identify options for radical improvements |
| | | 2.2 | Facilitate team activities and other relevant personnel to evaluate the options and agree on improvements to be made |
| | | 2.3 | Encourage and assist team and others to plan the activities and identify metrics to be monitored |
| | | 2.4 | Facilitate allocation of resources and strategies to manage impact on routine work |

- | | | | |
|---|-----------------------|-----|--|
| 3 | Facilitate the event | 3.1 | Assist team to gather baseline data on the selected metrics |
| | | 3.2 | Assist team to identify and address barriers to making the improvements |
| | | 3.3 | Monitor team dynamics and facilitate team focus and cooperation |
| | | 3.4 | Liaise with sponsor to communicate progress and maintain their support |
| | | | |
| 4 | Evaluate improvements | 4.1 | Assist team to gather and interpret data on the metrics |
| | | 4.2 | Facilitate team activities to evaluate the outcomes of the event |
| | | 4.3 | Identify causes for areas of poor performance from changes and identify any additional changes to address them |
| | | 4.4 | Report to sponsor and other stakeholders on the outcomes of the event |
| | | | |
| 5 | Embed improvements | 5.1 | Establish mechanisms to ensure new systems and/or practices are communicated to relevant personnel |
| | | 5.2 | Motivate team to apply the new systems and/or practices and sustain improvements |
| | | 5.3 | Ensure the new systems and/or practices are reflected in relevant procedures |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- facilitating groups of people who may not normally work together
- analysing information and data to identify variation and evaluate improvements
- measuring and calculating performance variables
- facilitating team goals, activities, communications and accessing resources
- planning and prioritising team activities
- solving problems to root cause
- identifying waste (muda)
- communicating with personnel at all levels in relation to team activities and improvement projects
- visualising normal operations and procedures in terms of flow and contribution to customer value
- contributing to procedure review and/or development
- identifying gaps in skills and/or knowledge and options to address them

Required knowledge

Required knowledge includes:

- team and organisation deliverables and processes used to achieve them
- how organisation operations and processes contribute to the value stream
- types of waste (muda) and imposed exclusions
- organisational policies, plans and procedures
- methods of identifying and evaluating options
- occupational health and safety (OHS) requirements relevant to the target work areas

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and	A person who demonstrates competency in this unit must
--	--

<p>evidence required to demonstrate competency in this unit</p>	<p>be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • interpret operations, processes and products in terms of value to the customer • identify, analyse and evaluate information from a variety of sources to identify opportunities for breakthrough improvements • lead and motivate others in planning, implementing and sustaining improvements.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>

Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
--	--

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted</p>
--	--

	<p>so as to take into account:</p> <ul style="list-style-type: none"> the stage of implementation of competitive systems and practices the size of the enterprise the work organisation, culture, regulatory environment and the industry sector
Team	<p>Team for the purposes of this unit means any group of employees engaged in a breakthrough improvement event. Examples include:</p> <ul style="list-style-type: none"> a permanent formally identified team a sub-group of a team a specially established group for the breakthrough event (e.g. a combined production/administration/logistics group convened for a breakthrough event addressing delivery issues)
Scope and benefit statements	<p>Scope and benefit statements of improvement project may include:</p> <ul style="list-style-type: none"> description of the business the target work process what key stakeholders seek from the improvement project a mission for the event a set of goals a statement of the do's and don'ts for the improvement project
Boundaries	<p>Boundaries define the extent and limits of the breakthrough improvement event. Typically they define:</p> <ul style="list-style-type: none"> the start and end point of the process being targeted the steps of the process to be included and excluded specific job roles or related processes to be included or excluded timeframe for the event
Sponsor	<p>Sponsor includes:</p> <ul style="list-style-type: none"> a person who is committed to achieving improvements and who has the authority to approve and allocate resources to support the activities and ensuing changes. Typically the sponsor will be a middle or senior manager in the organisation or the business owner
Breakthrough improvement	<p>A breakthrough improvement (also known as kaizen blitz) is one that delivers a better ratio of value-add to</p>

	<p>non-value add from the customer perspective. It is characterised by:</p> <ul style="list-style-type: none"> • using a formal process • being a discrete targeted activity that is achieved in a relatively short timeframe • delivering significant level of improvement
Mechanisms	<p>Mechanisms to communicate and sustain improvements may include:</p> <ul style="list-style-type: none"> • scheduled audits • regular monitoring and/or reporting activities • use of visual aids, such as targets and progress boards, process charts and procedure posters • communications, such as standing items for team meetings, email reminders or updates
Imposed exclusions	<p>Imposed exclusions are wastes (muda) that are required but do not add value. They should be formally identified as muda in the competitive systems implementation. Examples include:</p> <ul style="list-style-type: none"> • equipment excluded from efficiency or layout review because of budget constraints • regulatory requirements that do not add value • organisation requirements, policies or procedures beyond the influence of the team
Key process indicators	<p>Key process indicators may include:</p> <ul style="list-style-type: none"> • statistical process control data/charts • orders • lost time, injury and other OHS records • equipment reliability charts
Team	<p>Team includes:</p> <ul style="list-style-type: none"> • formally designated teams • informal groups of employees • other stakeholders who may be brought together for a breakthrough improvement event

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS403051A Mistake proof an operational process

Modification History

New unit, superseding MSACMT451A Mistake proof a production process - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to make changes to own and others work in a work area which prevents errors and/or backsliding to a pre-improvement level of practice.

Application of the Unit

This unit applies to a person who needs to analyse a process that a team is responsible for and determine methods of mistake proofing it (e.g. ensuring it only produces product within an acceptable range or error-free transport and storage of goods). The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to mistake proof the production process in their area. After improvement activities have been undertaken these improvements need to be sustained.

This unit requires the application of skills associated information gathering and analysis. Initiative, enterprise and problem solving are also required to identify mistakes and determine strategies for eliminating them. This unit also requires communication and teamwork skills to ensure mistake proofing strategies are implemented and self-management and learning skills to continually reflect on and integrate feedback about the effectiveness of strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse process	1.1	Identify sources of variability/non-conformance in the process
		1.2	Identify critical control points in process
		1.3	Analyse causes of variability/non-conformance
2	Develop preventative techniques/systems	2.1	Liaise with team members and other people to develop mistake proof options for performing operation
		2.2	Test and validate mistake proofing options
3	Implement permanent fix	3.1	Liaise with relevant people to have systems/procedures changed to implement solution
		3.2	Liaise with relevant people to implement the solution
		3.3	Liaise with relevant people to ensure self and others in the team or work area have an appropriate skills set
		3.4	Follow through to ensure implementation occurs
4	Monitor implementation	4.1	Critically observe the implementation
		4.2	Compare the results of the implementation against the expected outcomes

- 4.3 Modify solution to improve outcomes
 - 4.4 Ensure procedures reflect change
 - 4.5 Ensure training/assessment reflects change
 - 4.6 Audit change at agreed period/cycle
 - 4.7 Take action on any observed deviation
- 5 Seek improvements
- 5.1 Observe changes
 - 5.2 Analyse process again, if required, to ensure improvements are sustained

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with team or work group members, technical support personnel and other relevant staff
- explaining mistake proofing and related concepts
- facilitating input of others and encouraging acceptance of changes
- analysing and visualising operations in terms of flow and contribution to customer outcomes
- solving problems to determine root cause of errors and possible solutions
- analysing and interpreting information about errors and mistake proofing options in terms of cost, feasibility, regulations and value to the customer
- suggesting design changes to operations and products that eliminate the potential for errors
- suggesting mechanisms or procedures that warn of errors where operations cannot be designed to eliminate errors,

Required knowledge

Required knowledge includes:

- mistake proofing concepts, including, in priority order:
 - eliminate the possibility of the error via changes to the process
 - prevent the error from occurring via physical or virtual barriers
 - reduce likelihood of the error by encouraging correct action
 - mitigate the impact of the error if it does occur
- understanding of processes undertaken by team
- factors in the processes which may cause variability
- methods of controlling the variability in the process
- mistake proofing methods relevant to the process/product

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • analyse variability and non-conformances • identify, analyse and evaluate information from a variety of sources to identify errors and options for mistake proofing • facilitate implementation of mistake proofing activities that reduce waste • facilitate sustaining the mistake proofing activities.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and</p>

	disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree
--	---

	<p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Mistake proofing	<p>Mistake proofing is based on the concept of zero defects. The first priority is to eliminate the possibility of an error occurring. However, where this is not feasible mistake proofing can be used to reduce the occurrence of errors and/or to minimise their impact.</p> <p>Mistake proofing should target an error in the following priority order:</p> <ul style="list-style-type: none"> • eliminate the possibility of the error via changes to the process • prevent the error from occurring via physical or virtual barriers, • reduce likelihood of the error by encouraging correct action (e.g. through warning systems) • mitigate the impact of the error if it does occur <p>Mistake proofing is also called error proofing or baka-yoke or poka-yoke</p>
Options for mistake proofing	<p>Factors to consider when prioritising options for mistake proofing will vary according to the process and may include:</p> <ul style="list-style-type: none"> • success rate in eliminating errors • feasibility • skills required by employees • cost • capacity to reduce waste
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • all work instructions • standard operating procedures • formulas/recipes • batch sheet • temporary instructions and similar instructions provided for the operation of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care)

	<ul style="list-style-type: none">• government regulations Procedures may be: <ul style="list-style-type: none">• written, verbal, computer-based or in some other format
--	---

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS404050A Undertake process capability improvements

Modification History

New unit, superseding MSACMT450A Undertake process capability improvements* - Equivalent

* New prerequisite *MSS404052A Apply statistics to operational processes* superseding MSACMT452A Apply statistics to processes in manufacturing

Unit Descriptor

This unit of competency covers the skills and knowledge required to make process capability improvements, including analysing data from the process, developing improvements to eliminate variation due to assignable causes, and then implementing actions.

Application of the Unit

This unit applies to a person who reviews a range of process capability data and information, makes/arranges for changes to be made to procedures, equipment or process and then recalculates the process capability and monitors resulting improvement actions. The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to suggest and justify process capability improvements.

Process capability may have been determined using either a six sigma or three sigma processes. This unit applies to the application of statistical methods and the determination of capability based on those methods. Other related units may be *MSS404052A Apply statistics to operational processes* and *MSS404053A Use six sigma techniques*

This unit primarily requires the application of skills associated with communication, information gathering and analysis. Initiative, enterprise and problem solving are also required to identify opportunities to improve process capacity. This unit also requires aspects of self-management and learning to validate own analysis.

For a qualitative approach to improvement (one not using statistics) see *MSS403051A Mistake proof an operational process*.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MSS404052A Apply statistics to operational processes

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Obtain required data	1.1	Identify process for study
		1.2	Obtain/organise process to obtain required data/information
2	Analyse information	2.1	Analyse data and determine assignable causes
		2.2	Develop possible improvements to eliminate assignable causes
		2.3	Incorporate own experience and learning into proposed process improvement proposals
		2.4	Develop process improvement proposals
3	Improve process capability	3.1	Obtain required authorities to implement improvements
		3.2	Liaise with relevant people to implement improvements
		3.3	Obtain/organise required data for improved process
		3.4	Recalculate process capability

- 3.5 Implement revised data collection/processing and new capability information
- 3.6 Monitor improvement actions and make adjustments, as necessary

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- performing relevant mathematical operations
- identifying and using relevant statistical methods
- communicating and explaining data- related changes and procedures to individuals and groups
- negotiating with other employees and managers on proposed improvement actions
- analysing procedures and data to establish variation
- solving problems to root cause where assignable cause of variation is not obvious
- working in a team
- using computer software relevant to required analyses and process

Required knowledge

Required knowledge includes:

- data collection methods
- data processing techniques required
- variability and normal distribution
- three sigma or six sigma processes, as relevant
- random and non-random results (recognition of assignable causes)
- causes of different types of non-random results
- causes of random variation
- process understanding sufficient to translate the data into variations in the process and determine methods of controlling them

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate	A person who demonstrates competency in this unit must be able to provide evidence of the ability to:
---	---

competency in this unit	<ul style="list-style-type: none"> • analyse process information • calculate process capability/trial limits • improve process capability (or organise for it to be improved) • analyse revised process information and recalculate process capability.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for	Assessment processes and techniques must be culturally

assessment	appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
-------------------	---

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p>
--	--

	<ul style="list-style-type: none"> the stage of implementation of competitive systems and practices the size of the enterprise the work organisation, culture, regulatory environment and the industry sector
Process capability	<p>Process capability is:</p> <ul style="list-style-type: none"> the measurable ability of a process to reliably produce within calculated limits (the limits depend on the variation of the process)
Variation	<p>All processes have variation. The approach in this unit is to separate random variation (no assignable cause) from non-random variation (which has an assignable cause). By finding and eliminating assignable causes, total variation is reduced and process capability will be improved</p>
Six sigma	<p>Six sigma refers to:</p> <ul style="list-style-type: none"> a statistical tool for recording defects and determining capability. Six sigma limits equate to 3.4 defects per million opportunities for each product or service transaction. Six sigma is also used as a general term covering a competitive systems and practices approach. Six sigma training typically covers several units of competency in this Training Package
Three sigma	<p>Three sigma refers to:</p> <ul style="list-style-type: none"> a traditional statistical process control. Three sigma limits equate to 3 defects per thousand opportunities for each product or service transaction
Required data	<p>The calculation of three sigma or six sigma limits requires process data. The data required depends on the nature of the limits being calculated</p>
Assignable cause	<p>Any non-random variation is said to have an 'assignable cause'. The methods of data analysis common to statistical capability analysis as well as other methods of root cause analysis should be used to determine the cause of this non-random variation</p>
Improved process capability	<p>Improvements to process capability result from eliminating the causes of non-random variation. The improvements made may be:</p> <ul style="list-style-type: none"> as a result of continuous improvement with the process capability being recalculated periodically

	<ul style="list-style-type: none"> as a result of an improvement project with the process capability recalculated as part of that project
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> work instructions standard operating procedures formulas/recipes batch sheets temporary instructions and similar instructions provided for the smooth running of the plant good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> written, verbal, computer-based or in some other format

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS404052A Apply statistics to operational processes

Modification History

New unit, superseding MSACMT452A Apply statistics to processes in manufacturing - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to apply statistical theory and principles to the analysis and control of processes and operations.

Application of the Unit

This unit applies to a person working in an organisation applying statistical process control on processes or operations. The statistical process control will usually be used to monitor the processes or operations and determine when action needs to be taken. The appropriate action will then be taken in accordance with standard procedures.

The unit includes applying knowledge of frequency distribution and variation to the data/chart to distinguish between random and non-random variation and assumes understanding of the process and/or equipment to help interpret those results.

This unit primarily requires the application of skills associated with gathering and analysing data and communicating statistical information to others. This unit also has a strong emphasis on problem solving, initiative and enterprise, planning and organising, and self-management to solve problems and manage processes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Collect process data	1.1	Interpret sampling scheme
		1.2	Obtain measurements in accordance with standard procedures
		1.3	Handle data, as required
2	Interpret data	2.1	Plot data on appropriate control chart
		2.2	Distinguish between random and non-random patterns of results
		2.3	Identify results outside the control limits
		2.4	Recognise situations requiring action
		2.5	Take appropriate action in accordance with standard procedures
		2.6	Determine cost of non-conformance
3	Calculate control limits	3.1	Consult relevant stakeholders to determine appropriate limits
		3.2	Use relevant methods to calculate/revise control limits
		3.3	Plot limits on control chart

3.4 Explain impact of limit to relevant stakeholders

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- applying a range of sampling procedures
- analysing samples and data for variation, relevance, reliability and representativeness
- problem solving the causes of variation in a process
- communicating with other employees to obtain samples/data and to explain results and limits
- plotting or documenting results
- undertaking calculations, including:
 - basic arithmetic functions
 - mean, range, mean of means, standard deviation (using appropriate calculation aids)
- using statistics to support process and operations control

Required knowledge

Required knowledge includes:

- sampling techniques
- purpose of sampling and measurement
- random, systematic and stratified sampling
- purpose of replication of data for statistical control
- samples, populations, finite and infinite populations and the differences
- methods of calculating means, standard deviations and the like and their purpose in statistical control
- the meaning of broad/narrow frequency distributions/range/standard deviations and skewed distributions in process terms
- concept of limits, including:
 - 1 sigma warning limits
 - 2 sigma warning limits
 - 3 sigma control limits
 - 6 sigma limits
- types of control charts and their applications to different types of process/product and for different purposes
- process causes of variation and typical cause types of non-random variation
- non-process (e.g. measurement) causes of variation
- recognition of stable and unstable processes

- causes of stability/instability in the process
- calculation of control limits/process capability and the applications of different control limits
- the standard distribution curve and confidence limits

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • follow sampling procedures • apply basic statistical processes • analyse data to identify variations and non-conformances • plot or document results.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on)

	<ul style="list-style-type: none"> targeted questioning reports from supervisors, peers and colleagues (third-party reports) portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> lean operations agile operations preventative and predictive maintenance approaches monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems statistical process control systems, including six sigma and three sigma Just in Time (JIT), kanban and other pull-related operations control systems supply, value, and demand chain monitoring and analysis 5S
--	---

	<ul style="list-style-type: none"> • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Sampling scheme	<p>Sampling scheme may include:</p> <ul style="list-style-type: none"> • sampling for attributes or sampling for variables • batch, continuous or custom made products • number of items/samples • size of sample • timing of sampling • location of sampling points • type of sample • number/type of measurements to be done on each sample • sampling equipment • measurement/testing equipment/methods
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/ recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations

	<p>Procedures may be:</p> <ul style="list-style-type: none"> written, verbal, computer-based or in some other format
Handle data	<p>Handle data may include:</p> <ul style="list-style-type: none"> calculating means, ranges, mean of means and standard deviations (using appropriate calculation aids) entering data into a software package recording data either in writing or electronically other required manipulations of the data
Control chart	<p>Control charts may include:</p> <ul style="list-style-type: none"> run tally mean/range attributes other relevant charts
Random	<p>Random variation is the term used in statistical control to refer to those variations for which no cause can be found</p>
Non-random	<p>Non-random (also called identifiable cause, assignable cause or special cause) are those variations for which a cause can be found and so the cause of the variation eliminated. Non-random variation may also be used to predict possible breaches of the control limits</p>
Control limits	<p>Control limits (also referred to as process capability) are those limits within which the process will operate if it is 'under control'</p>
Cost of non-conformance	<p>Cost of non-conformance includes:</p> <ul style="list-style-type: none"> reprocessing/rework expediting unplanned service excess inventory complaint handline downtime returns scrap labour costs material costs infrastructure costs/overhead utility costs

Appropriate limits	Appropriate limits may include: <ul style="list-style-type: none">• 1 sigma warning limits• 2 sigma warning limits• 3 sigma control limits• 6 sigma limits
---------------------------	---

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS404053A Use six sigma techniques

Modification History

New unit, superseding MSACMT453A Use six sigma techniques* - Equivalent

* *New prerequisite MSS404052A Apply statistics to operational processes* superseding MSACMT452A Apply statistics to processes in manufacturing

Unit Descriptor

This unit of competency covers the skills and knowledge required to apply six sigma techniques to improve quality, cost and delivery in operations and other supporting processes in the workplace

Application of the Unit

This unit applies where a statistical-based strategy, such as six sigma will be used to establish current quality, cost and delivery performance and then to investigate and improve all or part of a process. This will be undertaken with other members of the process team.

This unit requires the application of skills associated with using information, problem solving, initiative, enterprise, planning and organising in order to identify an area requiring improvement and develop a measured process to make improvements. The unit covers the application of the Define, Measure, Analyse, Improve, and Control and standardise (DMAIC) process.

Depending on the scale of six sigma implementation in the organisation the following units may also be relevant:

- *MSS404050A Undertake process capability improvements*
- *MSS403002A Ensure process improvements are sustained*
- MSS403010A Facilitate change in an organisation implementing competitive systems and practices
- *MSAPMSUP390A Use structured problem solving tools.*
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MSS404052A Apply statistics to operational processes

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify an area requiring improvement	1.1	Identify customer needs from process
		1.2	Identify customer benefits delivered by process
		1.3	Identify areas requiring improvement
2	Apply DMAIC process	2.1	Define improvement project
		2.2	Acquire required measurements/data
		2.3	Analyse data and determine possible process improvements
		2.4	Develop and test improvement solutions
		2.5	Control and standardise the improvement
3	Review and confirm improvement	3.1	Determine and document benefits
		3.2	Ensure procedures and other relevant documentation is updated for improved procedure

3.3 Review process data after an appropriate period and confirm the improvement

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- interpreting charts and diagrams
- identifying data relevant to improvement project from a variety of sources
- analysing data using statistical methods
- solving problems to root causes
- communicating with other employees to obtain samples/data and to explain processes, results and limits
- determining extent of benefits gained from improvement projects
- identifying relevant documentation for improvement projects and updating, as required

Required knowledge

Required knowledge includes:

- charting methods and formats, such as Pareto charts, fishbone diagrams
- statistical principles and techniques
- acceptance criteria/confidence levels and other relevant limits and criteria for improvement project
- DMAIC methods
- six sigma principles

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify current and target customer needs and benefits for an area and improvement project • use DMAIC process for an area related improvement project a project
--	---

	<ul style="list-style-type: none"> propose test and document improvement solutions add to or edit organisation documents using standard procedures.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> workplace procedures and plans relevant to work area specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee documentation and information in relation to production, waste, overheads and hazard control/management reports from supervisors/managers case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> demonstration in the workplace workplace projects suitable simulation case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) targeted questioning reports from supervisors, peers and colleagues (third-party reports) portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems ,including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory
---	---

	environment and the industry sector
DMAIC	<p>DMAIC is a structured improvement process involving the following stages:</p> <ul style="list-style-type: none"> • define • measure • analyse • improve • control and standardise
Define	<p>Definition of the project to include:</p> <ul style="list-style-type: none"> • 'as is' process map • defining benefits from the project • problem statement • goal statement • project scope
Measurements	<p>Measurements may include:</p> <ul style="list-style-type: none"> • identification of key measures/attributes • sampling schedule for project • variations and limits
Analyse	<p>Analyse may include:</p> <ul style="list-style-type: none"> • statistical analysis of data • root cause analysis • use of various problem solving/analysis tools
Improvement	<p>Improvement may include:</p> <ul style="list-style-type: none"> • generation and testing of improvements • selection of appropriate improvements
Control and standardise	<p>Control and standardise may include:</p> <ul style="list-style-type: none"> • documenting • transferring ownership of improved process

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS404060A Facilitate the use of planning software systems in a work area or team

Modification History

New unit, superseding MSACMT460A Facilitate the use of planning software systems in manufacturing* - Not equivalent

* Prerequisite *MSACMT260A Use planning software systems in manufacturing* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required to facilitate the use of planning software in an organisation in a person's work area or team. These systems are known by various generic names, such as Enterprise Resource Planning (ERP), Materials Resource Planning (MRPII, MRP III etc.) or by proprietary names.

Application of the Unit

This unit applies to a person who will access the planning software system for their own work, but will also need to provide support and organise skill development programs for their team or work group members. The person will typically be a technical expert, team leader or be in a role where they have sufficient technical understanding of processes in their own work and that of others to be able to facilitate the use of the planning software system.

The planning software system will be used routinely in the work of the team or work group. This unit primarily requires the application of skills associated with using communication technology and supporting team use of planning software. Problem solving, initiative and enterprise, and planning and organisational skills are required to ensure that planning software is used efficiently. This requires aspects of learning and self-management to ensure own performance and that of the team.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify scope of planning software	1.1	Identify categories of information held by planning software
		1.2	Identify information categories relevant to team and area processes
		1.3	Identify range of information able to be provided to planning software by team or work group
		1.4	Identify range of information able to be provided to team or work group by planning software
2	Communicate using the planning software system	2.1	Send and receive information using planning software
		2.2	Send and receive messages using planning software
3	Make decisions using planning software	3.1	Interrogate the planning software system to find required current, historical or predicted information
		3.2	Take actions appropriate to the information in accordance with procedures
4	Monitor the use of planning software	4.1	Routinely monitor planning software information
		4.2	Review performance and use of planning software with team

- 5 Support others to use planning software
 - 5.1 Regularly communicate with team or other work group members, both using planning software and face to face
 - 5.2 Identify improvements required
 - 5.3 Take appropriate actions to implement improvements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- entering and receiving information via planning software terminals
- communicating with team and organisation planning software support personnel
- engaging and motivating team in use of planning software
- identifying team or work group area information requirements
- identifying scope of information relevant to team and area available in planning software by categories
- planning and organising improvements in team's use of planning software

Required knowledge

Required knowledge includes:

- hierarchy of planning software system and operation
- information available from/through the planning software system
- query facilities and information analysis capabilities offered by planning software
- support/training/skill development mechanisms available for access by team members

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of the ability to: <ul style="list-style-type: none">• identify team or work group area information requirements and relate to planning software categories• lead and motivate others in using planning software• ensure information sent to planning software is accurate and appropriate• obtain regular and one-off information from planning
---	--

	<p>software</p> <ul style="list-style-type: none"> • make decisions using planning software generated information.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, ERP systems, MRP and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
---	--

<p>Planning software</p>	<p>Planning software is a general term applied to a number of software systems which integrate a range of business information, such as:</p> <ul style="list-style-type: none"> • sales/order taking • finance/accounting • logistics • maintenance • human resources • production <p>It is frequently referred to by names such as ERP or MRP/MRP II. In some cases it can be integrated with engineering applications, such as SCADA systems. In such cases the unit MSS402061A Use SCADA systems in operations may also be required</p>
<p>Information and messages</p>	<p>Information and messages able to be sent and received via the planning software will vary between programs and organisations. This unit assumes that a range of discretion is available to the team leader over the information and messages that can be sent or received. Examples of information and message categories include:</p> <ul style="list-style-type: none"> • orders • production/operations processes • scheduling (e.g. daily/weekly) • finance and accounting • human resources (e.g. rosters, reserves, training completed and scheduled) • quality requirements • customers • suppliers
<p>Value stream</p>	<p>The value stream begins with the customer and includes all actions (both value-adding and non-value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing

	<ul style="list-style-type: none">• final assembler/collation/preparation• support services (e.g. accounting, finance and legal)• storage and delivery to customer• after market support
--	---

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS404061A Facilitate the use of SCADA systems in a team or work area

Modification History

New unit, superseding MSACMT461A Facilitate SCADA systems in a manufacturing team or work area* - Not equivalent

* Prerequisite *MSACMT261A Use SCADA systems in manufacturing* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required by a team leader or technical expert to personally use and facilitate the use of System Control and Data Acquisition (SCADA), or other similar systems, and support the team in their use of SCADA.

Application of the Unit

This unit applies to team leaders and others who are providing guidance and support to assist employees to use SCADA. The person will access the SCADA system for their own work, but will also need to provide support and organise skill development programs for their team members.

This competency is also relevant to maintenance personnel using a SCADA system to coordinate maintenance activities.

This unit primarily requires the application of skills associated with using communication technology and supporting team use of SCADA systems. Problem solving, initiative and enterprise, and planning and organisational skills are required to ensure that system is used efficiently. This requires aspects of learning and self-management to ensure own performance and that of the team.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify scope of SCADA system	1.1	Identify categories of information held in and control options of SCADA system relevant to team or area
		1.2	Identify range of information able to be provided to SCADA system by team
		1.3	Identify range of information able to be provided to team by SCADA system
		1.4	Identify team or area functions impacted by SCADA system
2	Communicate using SCADA system	2.1	Send and receive information using SCADA
		2.2	Send and receive messages using SCADA
3	Make decisions using SCADA	3.1	Interrogate the SCADA system to find required current, historical or predicted information
		3.2	Take actions appropriate to the information
4	Monitor the use of SCADA	4.1	Routinely monitor SCADA information
		4.2	Identify poor uses of SCADA system within team and system inadequacies

- 4.3 Identify system improvements required
 - 4.4 Take appropriate action to improve SCADA system and its use
- 5 Support team use of SCADA
 - 5.1 Regularly communicate with team, both using SCADA-based communication and face to face
 - 5.2 Identify skill improvement needs
 - 5.3 Identify team members who require additional support
 - 5.4 Take appropriate action to provide support

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- entering and receiving information via SCADA terminals
- communicating with team and organisation SCADA support personnel
- engaging and motivating team in use of SCADA system
- identifying team or work area information requirements
- identifying scope of team or area processes controlled by SCADA system
- planning and organising improvements in team's use of SCADA

Required knowledge

Required knowledge includes:

- hierarchy of SCADA system and operation
- information available from and controls exercised by/through the SCADA system
- query, control and other facilities and information offered by SCADA
- support/training/skill development mechanisms available for access by team member

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify team or area information and operations requirements and relate to SCADA system • lead and motivate others in using SCADA system • obtain regular and one-off information from SCADA system • make decisions using SCADA generated information.
<p>Context of and specific resources</p>	<p>Assessment of performance must be undertaken in a</p>

for assessment	<p>workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
SCADA	<p>SCADA is a general term applied to a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make</p>

	<p>control decisions and/or give required information personnel for action.</p> <p>SCADA systems are often used in manufacturing but can also be used in other industries. In the continuous sector, the SCADA system is sometimes integrated into other sophisticated computer control systems, such as Distributed Control System (DCS) and these systems do merge in advanced systems. These organisations may simply refer to their SCADA as the DCS or other similar term (such as the proprietary name of the computer system)</p>
<p>Value stream</p>	<p>The value stream begins with the customer and includes all actions (both value-adding and non-value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/ collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS404081A Undertake proactive maintenance analyses

Modification History

New unit, superseding MSACMT481A Undertake proactive maintenance analyses - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to undertake the most common forms of analyses associated with predictive/preventative/reliability centred maintenance strategies.

Application of the Unit

This unit applies to a technical expert (usually an engineer, technician or tradesperson) who is required to undertake analyses for the purpose of predictive/preventative/reliability centred maintenance as part of a competitive systems and practices strategy.

This unit primarily requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise, and planning and organising in order to undertake maintenance analyses. This is normally done in the context of using computer technology, and requires aspects of learning and self-management to ensure team involvement and facilitation of learning.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Liaise with operator	1.1	Establish a relationship with the operator of equipment/plant
		1.2	Ensure the operator has the required skills and resources to keep the equipment/plant clean
		1.3	Ensure the operator is able to effectively monitor the operation of the equipment/plant
		1.4	Regularly communicate with operator about the overall equipment effectiveness (OEE) of their equipment/plant
		1.5	Involve operator, team leader and other key personnel in identification of skill needs and means of skill acquisition to fill any identified gaps
2	Analyse history	2.1	Analyse mean time between failures (MTBF) from maintenance records
		2.2	Analyse performance data of the equipment/plant
		2.3	Identify causes of changes to historic trends/status
		2.4	Determine methods of ensuring causes of improvements and resolution of deterioration are locked in

- 3 Undertake failure mode effects analysis (FMEA) or similar failure effects analysis
 - 3.1 Undertake analysis
 - 3.2 Record results of analysis
 - 3.3 Investigate methods of eliminating possibility of failure and/or minimising the impact of the failure
 - 3.4 Liaise with operator, team leader and other key personnel regarding possible solutions
 - 3.5 Select most appropriate solution
 - 3.6 Implement selected solutions

- 4 Undertake condition monitoring analysis
 - 4.1 Obtain data for condition monitoring analysis
 - 4.2 Interpret condition monitoring data
 - 4.3 Predict required maintenance type and timing from condition monitoring data
 - 4.4 Liaise with operator, team leader and other key personnel regarding implications of condition monitoring report
 - 4.5 Involve team members in development of changes to maintenance strategy to ensure awareness, learning and commitment

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with operators and team leaders in a variety of situations and with different media
- adapting personal communication strategy to different levels of operator and team leader literacy and numeracy
- working in formal and ad-hoc teams to undertake proactive maintenance related analyses
- analyse data to determine trends, variations, equipment history and to prioritise methods of eliminating or minimising equipment failure
- solving problems to root cause
- applying basic arithmetic and statistical methods
- planning for effective data collection
- reading and interpreting engineering specifications/drawings
- reading and interpreting charts and diagrams
- using information system terminals and computer
- recording data in hard or soft formats

Required knowledge

Required knowledge includes:

- cleaning needs, techniques and principles of equipment in area of responsibility
- methods of assessing operator and maintenance skill gaps and filling them
- techniques for determining MTBF or similar
- techniques for undertaking FMEA or similar
- underpinning principles of competitive systems and practices strategies being implemented and how to adapt them to maintenance
- root cause analysis
- techniques to analyse condition monitoring data

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment

Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify and analyse data and other information on the historical performance of equipment • involve operators, maintenance and other stakeholders in decisions on proactive maintenance strategies • identify root cause of failure and deterioration in equipment performance • select and implement failure elimination or minimisation solutions.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess</p>

	<p>underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • OEE • takt time • process mapping
--	---

	<ul style="list-style-type: none"> • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
OEE	<p>OEE is the combination of the main factors causing loss of productive capacity from equipment/plant and is:</p> $OEE = \text{availability} \times \text{performance} \times \text{quality rate}$ <p>where:</p> <ul style="list-style-type: none"> • availability takes into account losses due to breakdown, set up and adjustments • performance takes into account losses due to minor stoppages, reduced speed and idling • quality rate takes into account t losses due to rejects, reworks and start-up waste
MTBF	<p>MTBF is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is failing.</p> <p>There are many possible causes of any problem. Eliminating some will have no impact, others will ameliorate the problem. However, elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.</p> <p>Depending on the equipment, operations and procedures of the organisation, alternative statistical records of maintenance and maintenance related events may be substituted for MTBF providing they relate strategies for improving OEE.</p>
FMEA	<p>FMEA is a systematic approach that identifies potential failure modes in a system, product, or operations/assembly operation caused by either design or operations/assembly process deficiencies. It also</p>

	<p>identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring.</p> <p>Some industry sectors have highly adapted forms of FMEA and may practice traditional FMEA in say their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification.</p> <p>HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability.</p>
<p>Condition monitoring</p>	<p>In this unit condition monitoring is used to describe the process of analysing the implications of condition monitoring data for proactive maintenance, whether it be obtained from non-destructive testing (NDT) reports, visual assessment by experts, diagnostic reports obtained from SCADA or other enterprise or equipment software and product or process quality analyses. It does not require the actual undertaking of the NDT or condition monitoring assessment or test. If this is required appropriate units from other Training Packages will be required.</p>

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS404082A Assist in implementing a proactive maintenance strategy

Modification History

New unit, superseding MSACMT482A Assist in implementing a proactive maintenance strategy - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by a maintenance person to assist in the implementation of a proactive maintenance strategy in an organisation. This unit includes the interaction between a maintenance worker and operators, as appropriate.

Application of the Unit

This unit applies to a maintenance person in an organisation that has adopted or is implementing total preventative/productive maintenance (TPM), reliability centred maintenance (RCM) or similar strategies. As part of this, the maintenance person is expected to assist in the implementation by determining appropriate maintenance related schedules and also by providing maintenance related assistance to non-maintenance personnel, such as assisting production personnel to fulfil their role in the TPM/RCM strategy.

This unit requires the application of skills associated with problem solving and initiative and enterprise in order to analyse maintenance requirements. Communication, teamwork and planning and organising skills will be required to implement reliability strategies. This requires aspects of self-management to ensure improvement of own performance and learning.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Develop components of reliability strategy for a work/plant area	1.1	Determine manufacturer's recommended inspection, servicing and related schedules for relevant plant
		1.2	Consult with relevant people with regard to appropriate inspections, services and schedules
		1.3	Discuss any conflicts with relevant people and seek resolution of conflicts
		1.4	Develop schedules in liaison with relevant people
		1.5	Identify inspections and servicing which may be done by operations personnel in liaison with relevant stakeholders
2	Assess current practice for maintenance implications	2.1	Identify the overall equipment effectiveness (OEE) or other organisation targets for equipment/plant
		2.2	Evaluate procedures for plant/equipment reliability implications
		2.3	Discuss current practices with relevant people to determine any plant/equipment reliability implications
		2.4	Recommend changes to improve plant/equipment reliability in accordance with procedures

- 3 Assist in implementing the reliability strategy
 - 3.1 Arrange for schedules to be incorporated in relevant work plans
 - 3.2 Identify training needs in discussion with relevant personnel
 - 3.3 Assist personnel to develop required skills for inspections/servicing within scope of authority
 - 3.4 Collect data/information as required by own work plan
 - 3.5 Compare data/information with performance indicators
 - 3.6 Recommend improvements to reliability strategy in accordance with procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- explaining concepts and processes of chosen proactive maintenance strategy used by the organisation and distinguishing from traditional (breakdown) maintenance strategies
- communicating with operators, other maintenance personnel, team leaders and technical experts in a variety of situations and using different media
- adapting personal communication strategy to different levels of operator and team leader literacy and numeracy
- working in formal and ad-hoc teams to implement proactive maintenance
- solving problems to root cause
- planning proactive maintenance tasks to fit in with maintenance and production schedules and the needs of other staff
- assessing the ability of operations personnel with regard to inspections and servicing of equipment
- reading and interpreting charts and diagrams, manufacturer manuals and specifications and operating procedures

Required knowledge

Required knowledge includes:

- requirements of the proactive maintenance strategy being implemented
- operating principles and procedures for equipment/plant subject to proactive maintenance strategy
- purpose and processes for data collection in proactive maintenance strategies
- procedures relevant to own job and organisation implementation of proactive maintenance
- methods of making/recommending improvements

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and	A person who demonstrates competency in this unit must
--	--

<p>evidence required to demonstrate competency in this unit</p>	<p>be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • source information from manuals and other technical documentation or software • effectively communicate with users on equipment operational and maintenance history • develop schedules for maintenance activities including seeking technical assistance, where appropriate • differentiate between proactive and traditional maintenance strategies.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to</p>

	accommodate ethnicity, age, gender, demographics and disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • OEE • takt time • process mapping • problem solving • run charts • standard procedures
--	---

	<ul style="list-style-type: none"> • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise, the work organisation, culture • regulatory environment and the industry sector
TPM	TPM is an application of total quality management to maintenance with the intention of increasing reliability, getting it right first time and increasing OEE
RCM	RCM moves maintenance from reactive, or even planned/programmed, towards a focus on uptime and OEE
Similar strategies	<p>Similar strategies may include:</p> <ul style="list-style-type: none"> • mean time between failure (MTBF) which is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is failing • failure mode and effects analysis (FMEA) which is a systematic approach that identifies potential failure modes in a system, product, or equipment based operations caused by either design or operation/process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring • industry sectors have highly adapted forms of FMEA and which may practice traditional FMEA in say their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification. HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability • condition monitoring which often involves quite sophisticated monitoring of equipment, including such things as vibration monitoring, instrumental analysis of lubricating oil, and so on, to determine the current state of the equipment, monitor the change in

	<p>this condition and predict when it needs servicing/maintenance to maintain reliability.</p>
OEE	<p>OEE is the combination of the main factors causing loss of productive capacity from equipment/plant and is:</p> $OEE = \text{availability} \times \text{performance} \times \text{quality rate}$ <p>where:</p> <ul style="list-style-type: none"> • availability takes into account losses due to breakdown, set-up and adjustments • performance takes into account losses due to minor stoppages, reduced speed and idling • quality rate takes into account the losses due to rejects, reworks and start-up waste
Uptime	<p>Uptime refers to the overall availability of the plant (it is the inverse of downtime) or the unavailability of the plant. Ideal uptime is 100%</p>
Inspection	<p>Inspection may include:</p> <ul style="list-style-type: none"> • reading dials, gauges and meters • observations, including those using sight, hearing, smell and feel • observations of product quality/faults/rejects
Servicing	<p>Servicing may include:</p> <ul style="list-style-type: none"> • cleaning • lubricating • topping up • adjusting
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer based or in some other format

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS404083A Support proactive maintenance

Modification History

New unit, superseding MSACMT483A Support proactive maintenance - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to lead a production team/work group or maintenance team in a proactive maintenance environment.

Application of the Unit

This unit applies in a competitive systems and practices organisation where proactive maintenance strategies, such as total preventative/productive maintenance (TPM) or reliability centred maintenance (RCM) are used. This unit applies to a team leader or other person who as part of their role assists others in implementing and following the proactive maintenance practices. Team refers to formally designated teams or a group of employees in a common work area.

The unit assumes that team members and in particular the team leader or other support person are in possession of technical knowledge appropriate to their position about the organisation's operational processes and equipment and are able to apply this to the maintenance strategy.

The unit covers the leading of a team in proactive maintenance activities, such as keeping records, visual checks, analysis of failures and effects on production and housekeeping. The unit does not cover breakdown maintenance, condition monitoring or non-destructive testing (NDT).

This unit requires the application of skills associated with communication, teamwork, problem solving, initiative, enterprise, planning and organising in order to lead a team in the development and implementation of proactive maintenance strategies. This unit has a strong emphasis on developing and resourcing the team to interpret information and monitor equipment and operation.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Lead team in monitoring process and equipment	1.1	Demonstrate to team how to observe the process/equipment continuously and critically using appropriate senses (e.g. sight and hearing) to identify any potential or actual problems
		1.2	Identify to team data indicators that must be monitored and recorded
		1.3	Ensure team monitors identified data indicators frequently and critically
		1.4	Ensure symptoms of operations outside the desired range of conditions and performance are recognised
		1.5	Analyse cause of equipment non-standard performance within scope of knowledge and skill
		1.6	Ensure team members take timely and appropriate action to solve problems or to refer problems to appropriate manager or specialist
2	Apply proactive maintenance strategy	2.1	Obtain and discuss maintenance strategy with relevant people
		2.2	Identify aspects of maintenance strategy which require specific input from team
		2.3	Discuss maintenance strategy with team members

- 2.4 Ensure team members have resources and training to be able to make the required contributions
- 3 Analyse standard procedures and work practices
 - 3.1 Examine team procedures and practices for compatibility with maintenance strategy
 - 3.2 Identify areas where production procedures/practices should be changed to comply with maintenance strategy
 - 3.3 Identify areas where maintenance strategy should change to comply with production procedures and practices
 - 3.4 Identify other activities or areas where changes might increase equipment reliability
 - 3.5 Take appropriate action to have the required changes made
- 4 Facilitate team contribution to proactive maintenance
 - 4.1 Monitor team's contribution to proactive maintenance
 - 4.2 Arrange for competency development of team members, as required
 - 4.3 Facilitate ongoing examination by the team of process reliability and overall equipment effectiveness (OEE)
 - 4.4 Arrange for follow through and implementation of team originated improvements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- explaining concepts and processes to team of the proactive maintenance strategy and associated analyses used by the organisation and distinguishing from traditional (breakdown) maintenance strategies
- communicating with team members, maintenance personnel and technical experts in a variety of situations and using different media
- assessing capability of team as a whole and individually to contribute to proactive maintenance strategy
- identifying resources in the organisation to improve team capability in regards to proactive maintenance strategy
- working in a team
- solving problems

Required knowledge

Required knowledge includes:

- the production process as it applies to the team area of responsibility
- equipment controls and function used in team's work area
- data ranges and indicators for normal team operations
- data and equipment variations and fault indicators able to be identified by team during operations
- proactive maintenance strategies used by the organisation, including:
 - range of data required from team for proactive maintenance strategy
 - typical analyses used by the proactive maintenance strategy and their implication for work of the team
 - responsibilities of the team, maintenance staff and technical experts
- OEE and relationship to team's operational capability

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • communicate effectively with team on the proactive maintenance strategy being adopted and the role expected by the team in its implementation • identify data required from team and for team key from the proactive maintenance strategy • analysing proactive maintenance strategy and current work practices of the team to identifying opportunities for better fit • differentiate between proactive and traditional maintenance strategies.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues

	<p>(third-party reports)</p> <ul style="list-style-type: none"> • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP), and proprietary systems statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams
--	--

	<ul style="list-style-type: none"> • OEE • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Team	<p>Team may include:</p> <ul style="list-style-type: none"> • work teams from all sections of the organisation including production, maintenance, technical, administration/finance and sales/marketing • a formally designated team or a group of employees in a common work area
Proactive maintenance strategies and associated analyses	<p>Proactive maintenance strategy and associated analyses may include:</p> <ul style="list-style-type: none"> • TPM and RCM • root cause analysis (RCA) • mean time between failures (MTBF) • failure mode and effects analysis (FMEA) • condition monitoring
TPM	<p>TPM is an application of total quality management to maintenance with the intention of increasing reliability, getting it right first time and increasing OEE</p>
RCM	<p>RCM moves maintenance from reactive, or even planned/programmed, towards a focus on uptime and OEE</p>
OEE	<p>OEE is the combination of the main factors causing loss of productive capacity from equipment/plant and is:</p> $OEE = \text{availability} \times \text{performance} \times \text{quality rate}$ <p>where:</p> <ul style="list-style-type: none"> • availability takes into account losses due to breakdown, set-up and adjustments

	<ul style="list-style-type: none"> • performance takes into account losses due to minor stoppages, reduced speed and idling • quality rate takes into account the losses due to rejects, reworks and start-up waste
MTBF	MTBF is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is failing
FMEA	<p>FMEA is a systematic approach that identifies potential failure modes in a system, product, or operations/assembly operation caused by either design or operations/assembly process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring.</p> <p>Some industry sectors have highly adapted forms of FMEA and may practice traditional FMEA in say their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification.</p> <p>HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability.</p>
Condition monitoring	<p>Condition monitoring often involves quite sophisticated monitoring of equipment, including such things as:</p> <ul style="list-style-type: none"> • vibration monitoring • instrumental analysis of lubricating oil, and so on, to determine the current state of the equipment, monitor the change in this condition, and predict when it needs servicing/maintenance to maintain reliability <p>For this unit an awareness level only of condition monitoring and its implications for team operations is required.</p>

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405001A Develop competitive systems and practices for an organisation

Modification History

New unit, superseding MSACMS600A Develop a competitive manufacturing system - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop new strategies for competitive systems and practices or make improvements to existing systems and practices.

Application of the Unit

This unit applies to a manager, technical specialist or similar in an organisation implementing competitive systems and practices, or in an organisation wishing to embark on the competitive systems and practices path. The person needs to be able to analyse the needs of the organisation and develop strategies and systems for effective implementation and continuous improvement of competitive systems and practices in the organisation.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are required to determine effective competitive systems and practices strategies for the organisation. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into competitive systems and practices strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Determine appropriate analytical techniques	1.1	Liaise with key stakeholders to determine objectives of operations strategy
		1.2	Examine current operations to determine major areas requiring improvement
		1.3	Compare possible strategies, techniques and tools against organisation needs
		1.4	Select possible strategies, techniques and tools
		1.5	Consult with key stakeholders to confirm selected strategies, techniques and tools
2	Develop competitive systems and practices strategies	2.1	Estimate benefit/cost ratio for major stakeholders and the value stream overall
		2.2	Determine preferred operations strategy
		2.3	Examine and adapt strategy to organisation needs and priorities
		2.4	Examine and adapt competitive systems and practices techniques and tools required to implement strategy
		2.5	Negotiate with key stakeholders to develop an implementation plan
		2.6	Determine key information and performance indicators

- required
- 3 Implement strategy
 - 3.1 Determine data collection required
 - 3.2 Identify and evaluate methods of collecting and processing required data
 - 3.3 Determine hardware and other resources required
 - 3.4 Evaluate skill needs required
 - 3.5 Ensure all resources/training are available and completed
 - 3.6 Implement strategy

 - 4 Monitor implementation of strategy
 - 4.1 Compare information/performance indicators with desired levels
 - 4.2 Liaise with key stakeholders regarding strategy issues
 - 4.3 Identify areas requiring adjustment
 - 4.4 Make required adjustments

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- undertaking self-directed problem solving and decision-making on issues of a broad and/or highly specialised nature and in a wide variety of contexts
- analysing current state/situation of the organisation and value stream, including appropriateness of strategy, operations and internal and external relationships, including value stream members
- determining appropriate key performance indicators (KPIs) and overseeing data collection
- selecting appropriate competitive systems and practices tools and techniques, such as:
 - value stream mapping
 - 5S
 - Just in Time (JIT)
 - mistake proofing
 - process mapping
 - establishing customer pull
 - kaizen and kaizen blitz
 - setting of KPIs/metrics
 - identification and elimination of waste
- communicating at all levels in the organisation and value stream and to audiences of different levels of literacy and numeracy
- prioritising situations and actions based on:
 - customer benefit
 - cost/benefit analysis
- reviewing and modifying strategies and KPIs, as required

Required knowledge

Required knowledge includes:

- competitive systems and practices principles and tools, including:
 - value stream mapping
 - 5S
 - JIT
 - mistake proofing

- process mapping
- establishing customer pull
- kaizen and kaizen blitz
- setting of key performance indicators/metrics
- identification and elimination of waste
- methods of estimating costs/benefits
- acceptable benefit/cost ratios
- continuous improvement principles
- principles of motivation and leadership
- characteristics and strengths of different types of strategies, techniques and tools, such as 5S, JIT, six sigma, lean operations and agile operations
- business goals sufficient to match the strategy to the business needs
- strategic thinking
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • determine appropriate analytical techniques • develop strategies that deliver the greatest overall benefit • implement the strategies • monitor the implementation of the strategy.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard

	<p>control/management</p> <ul style="list-style-type: none"> • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations
--	---

	<ul style="list-style-type: none"> • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
<p>Competitive systems and practices techniques and tools</p>	<p>Competitive systems and practices techniques and tools may include:</p> <ul style="list-style-type: none"> • value stream mapping • 5S • JIT • mistake proofing • process mapping • establishing customer pull • kaizen and kaizen blitz • setting of KPIs/metrics • identification and elimination of waste (muda) • standardisation

Value stream	<p>The value stream begins with the customer and includes all actions (both value-adding and non-value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement stages where value stream actions may occur include:</p> <ul style="list-style-type: none">• sales outlet/representative• information gathering, data analysis and research• product design• raw material sourcing• intermediate processing• final assembler/collation/preparation• support services (e.g. accounting, finance and legal)• storage and delivery to customer• after market support
---------------------	--

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405002A Analyse and map a value stream

Modification History

New unit, superseding MSACMS601A Analyse and map a value chain* - Not equivalent

* Prerequisite *MSACMT631A Undertake value analysis of product costs in terms of customer requirements* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required to analyse and map a value stream, including the clear identification of the place of an organisation in the value stream and its contribution to the value stream. The unit includes the identification of an organisation in a value stream, their relationships and the activities undertaken by value stream organisations. The identification skills include identification at the virtual or information level, the technical or process level, and at the physical or logistic level.

The unit includes the analysis of value-adding and non-value adding activities and the information needs for successful value stream mapping, including information technology (IT) needs.

This unit covers the analysis of the supply chain, the demand chain as well as the overall value stream.

Application of the Unit

This unit applies to a person in a senior role in an organisation, such as an operations manager, purchasing manager, senior technical officer performing planning or scheduling or similar who needs to analyse and map a value stream, a supply chain, or a demand chain in order to understand the interactions between all members and determine the value added/potential value added by each member. The value stream is represented visually according to organisation format requirements.

This information is the basis for the design of Just in Time (JIT) and for the determination of waste. Value stream analysis is not a one-off activity but rather an ongoing activity of re-analysis as the value stream changes and its members progress towards excellence in competitive systems and practices.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Map the value stream	1.1	Select a product/product group for analysis
		1.2	Identify ultimate customer
		1.3	Identify ultimate supplier
		1.4	Identify all organisations between ultimate supplier and ultimate customer
		1.5	Identify all steps in own organisation
		1.6	Map value stream
2	Define customer need	2.1	Determine the features/benefits obtained by customers from product
		2.2	Determine methods of measuring the contribution to each features/benefits
		2.3	Identify possible data sources for required measures
		2.4	Implement measurement of contribution to features/benefits
3	Assess the value added at each step	3.1	Identify value contributed by each external organisation
		3.2	Determine value added by each internal step

- 3.3 Determine method of measuring value added
- 4 Reduce waste
 - 4.1 Compare value added to customer benefit/feature
 - 4.2 Identify activities on value stream map which do not add to customer benefit/features
 - 4.3 Liaise with external value stream members to determine methods to reduce overall waste
 - 4.4 Take required actions to reduce waste

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying for an individual organisation its place in the value stream, including immediate upstream and downstream organisations
- determining flow of materials and information along the value stream, including:
 - output quantities and qualities
 - variability in quality and quantity
 - uptime
 - other key performance indicators (KPIs) indicators appropriate to the organisation and customer requirements
- classifying steps and processes into value adding and non-value adding, including determining appropriate methods for measuring value added
- mapping value stream showing flow of information and materials in either hard copy or using software
- communicating at all levels in the organisation and value stream and to audiences of different levels of literacy and numeracy

Required knowledge

Required knowledge includes:

- purpose of value stream analysis
- methods of value stream analysis and mapping
- concept of waste and value in terms of customer benefit
- types of waste and methods of reducing it
- processes, and operations used in own organisation to make products or deliver services to internal and external customers
- processes employed by other members of the value stream sufficient to have meaningful dialogue with them

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment

Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • review activities of organisations to determine: <ul style="list-style-type: none"> • their place in value stream • value added by each organisation • non-value added steps within each organisation • determine methods of measuring value added • prepare a map of a value stream that includes all value creating and non value adding steps.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p>

	Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving
--	--

	<ul style="list-style-type: none"> • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Value stream	<p>The value stream begins with the customer and includes all actions (both value-adding and non-value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support
Value-added	<p>Value-added is measured against its contribution to the customer benefits/features and may be in the form of:</p> <ul style="list-style-type: none"> • technical benefits/features • location benefits/features • aesthetic benefits/features • information benefits/features
Map value stream	<p>The map of the value stream can be completed using:</p> <ul style="list-style-type: none"> • hard copy (e.g. paper or whiteboard) • appropriate software tools <p>The map should show all participants and stages of materials and information flow and the value creating and non-value adding steps and processes</p>
JIT	<p>JIT refers to:</p> <ul style="list-style-type: none"> • a production scheduling concept that calls for any

	item needed at a production operation (whether raw material, finished item, or anything in between) to be produced and available precisely when needed, neither a moment earlier nor a moment later
Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product. Within operations, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405005A Manage competitive systems and practices responding to individual and unique customer orders

Modification History

New unit, superseding MSACMS604A Manage competitive manufacturing processes in a jobbing shop environment* - Not equivalent

* Prerequisites *MSACMS601A Analyse and map a value chain, MSACMT280A Undertake root cause analysis, MSACMT631A Undertake value analysis of product costs in terms of customer requirements* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required to prepare for and manage the introduction of competitive systems and practices processes in an organisation that does not undertake repetitive processes or mass produce products and instead responds to individual and unique customer orders.

Application of the Unit

This unit applies to the introduction of competitive systems and practices processes in an environment where the organisation or part of the organisation specialises in one-off or small batch product or operations driven by individual and unique customer orders (e.g. overhaul of equipment, jobbing manufacture, supply of customised/bespoke services or product).

This unit describes the skills needed to restructure the process and work organisation to allow the application of competitive systems and practices tools and techniques.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to manage competitive systems and practices processes in a jobbing shop environment. This unit also requires communication and teamwork skills to gather information about processes and implement redesign plans.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse the existing operations	1.1	Identify organisation capability for products and processes
		1.2	Identify the major processing steps in meeting customer order or orders
		1.3	Consult with employees, managers and other major stakeholders on major expected benefits from a move to a competitive systems and practices strategy
		1.4	Identify lead times, throughput times and waiting times throughout process of meeting a customer order
		1.5	Identify variations within the process
		1.6	Identify causes of the variations
2	Draft a virtual flow process	2.1	Consider similarities in materials, processes and services for orders
		2.2	Map flow of information, material, processes and people for each product family/cluster of similar customised products/services
		2.3	Draw a current state value stream map for the process as a virtual flow process
		2.4	Analyse the current value stream map for waste

- 2.5 Draft possible future state value stream map
- 2.6 Calculate benefits flowing from future state map
- 2.7 Consult with stakeholders to validate benefits

- 3 Prepare proposals for process redesign
 - 3.1 Identify options for the delivery of competitive systems and practices and other changes required to move to future state value stream map
 - 3.2 Plan as to how these changes might be implemented
 - 3.3 Cost the proposed changes and determine benefit/cost ratios
 - 3.4 Prepare recommendations for change
 - 3.5 Negotiate/consult with relevant stakeholders to establish the preferred option

- 4 Implement the plan
 - 4.1 Arrange for altered process, as required
 - 4.2 Arrange for altered infrastructure needs, as required
 - 4.3 Monitor the implementation of the plan, making adjustments as required
 - 4.4 Review the new value stream and check that expected benefits have been obtained
 - 4.5 Put in place a continuous improvement mechanism for the new value stream

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying and draw current state maps for jobs/processes
- analysing current targets for jobs (e.g. quality, time and cost) and identifying variations from targets
- analysing current processes used in the organisation, including appropriateness of strategy, operations, and internal and external relationships, including value stream members
- identifying waste
- proposing changes and determine cost/benefit of each change
- selecting and adapting appropriate competitive systems and practices tools and techniques for a jobbing environment, such as:
 - value stream mapping
 - 5S
 - Just in Time (JIT)
 - mistake proofing
 - process mapping
 - kaizen and kaizen blitz
 - setting of key performance indicators(KPIs)/metrics
 - identification and elimination of waste
- communicating at all levels in the organisation and value stream and to audiences of different levels of literacy and numeracy
- developing future state maps

Required knowledge

Required knowledge includes:

- competitive systems and practices principles and tools, including:
 - value stream mapping
 - 5S
 - JIT
 - mistake proofing
 - process mapping
 - kaizen and kaizen blitz

- setting of KPIs/metrics
- identification and elimination of waste
- establishing customer pull
- standardisation
- processes used in jobbing manufacture and other non-repetitive operations businesses
- capabilities of equipment
- methods of estimating costs/benefits
- acceptable benefit/cost ratios
- continuous improvement principles
- abilities and skills of personnel in organisation

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • analyse existing operations and draft virtual flow process • determine improvements that deliver the greatest overall benefit • plan the implementation of competitive systems and practices strategy, techniques and tools • produce a current state value stream map • draft possible future state value stream map • monitor a continuous improvement strategy.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers

	<ul style="list-style-type: none"> • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as
--	---

	<p>Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems</p> <ul style="list-style-type: none"> • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
<p>Variations</p>	<p>Variations are deviations from desired targets and may cover variations in:</p> <ul style="list-style-type: none"> • quality • time • cost • occupational health and safety (OHS)
<p>Waste</p>	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit or features in the product. Within operations, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design

	<ul style="list-style-type: none"> • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers
Stakeholders	<p>Stakeholders may include:</p> <ul style="list-style-type: none"> • managers • supervisors • employees • shareholders • OHS mechanisms/representatives • Industrial relations mechanisms/representatives • suppliers • customers • service providers
Infrastructure needs	<p>Infrastructure needs may include:</p> <ul style="list-style-type: none"> • physical infrastructure, including plant, equipment, tools, systems and processes • information and control infrastructure • work organisation, including numbers of employees • work structure and skills and knowledge held by employees • workforce development and, where required, training
Value stream	<p>The value stream begins with the customer and includes all actions (both value adding and non value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/ collation/preparation • support (services e.g. accounting, finance and legal) • storage and delivery to customer • after market support

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS405006A Develop a Balanced Scorecard

Modification History

New unit, superseding MSACMS605A Develop a Balanced Scorecard for use in competitive manufacturing* - Not equivalent

* Prerequisites *MSACMS601A Analyse and map a value chain, MSACMT280A Undertake root cause analysis, MSACMT631A Undertake value analysis of product costs in terms of customer requirements* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop and use a Balanced Scorecard approach for reporting and improving operational performance.

Application of the Unit

This unit covers the skills needed to develop or improve a Balanced Scorecard and facilitate its use for improving performance in an organisation. The unit covers the development of key performance indicators (KPIs) and type of metrics for a Balanced Scorecard but does not include the technical skills for related information technology (IT) skills.

This unit has a strong emphasis on providing leadership in implementation, determining required performance measures and requires an ability to test the validity of performance measuring and reporting processes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Develop strategy map for Balanced Scorecard operation	1.1	Develop strategic objectives of an organisation in consultation with stakeholders
		1.2	Check strategic goals and objectives include those which make the organisation unique
		1.3	Check with employees and customers that strategic objectives address real issues and problems
		1.4	Categorise strategic objectives into the major perspectives of financial, customer, process, innovation and learning, and growth
		1.5	Add additional required perspectives and associated strategic goals and objectives
		1.6	Map strategic objectives showing cause/effect flows
		1.7	Validate strategy map with stakeholders
2	Develop KPIs	2.1	Identify possible KPIs for each strategic objective
		2.2	Identify/develop appropriate metrics for each KPI
		2.3	Agree target KPI levels
		2.4	Check measures and KPIs encourage the behaviours required to meet the total performance goals and objectives

-
- | | | | |
|---|---|-----|---|
| 3 | Develop reporting systems | 3.1 | Identify strategic and operational drivers |
| | | 3.2 | Align KPIs to strategic and operational drivers |
| | | 3.3 | Develop reporting structures which align responsibilities with reported information |
| | | 3.4 | Arrange for data to be collected and Balanced Scorecard reports to be generated and distributed |
| | | 3.5 | Arrange for reporting against strategy map |
| | | | |
| 4 | Implement a Balanced Scorecard strategy | 4.1 | Analyse pattern of performance as revealed by strategy map |
| | | 4.2 | Determine causes of poor performance as displayed by the Balanced Scorecard |
| | | 4.3 | Take appropriate action to improve total performance |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- developing KPIs and their application at the enterprise level
- analysing organisation operations and determine strategy for implementation of Balanced Scorecard approach, including:
 - required communication with others
 - negotiations if any, required with internal and external suppliers, customers and delegates
 - analysis of any skill gaps in self and others
 - required training
 - measuring of KPIs
 - data collection
 - work organisation and procedure changes
 - risk identification and contingency measures
- analysing data, including competitive systems and practices indicators and verifying results with stakeholders
- solving problems associated with implementing and gaining support for Balanced Scorecard implementation across the organisation
- negotiating with employees, suppliers and customers, where necessary, to achieve implementation of Balanced Scorecard
- communicating and negotiating at all levels in the organisation and value stream and with individuals of different levels of literacy and numeracy
- documenting

Required knowledge

Required knowledge includes:

- vision and mission of organisation
- strategic issues for the organisation
- Balanced Scorecard principles and components, including perspectives, feedback loops, metrics and reporting systems
- Key KPI development principles
- responsibilities of personnel at different organisational levels/within different organisational sections and functions

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • develop strategy for an enterprise • develop procedures for implementation of the Balanced Scorecard practices in an enterprise • identify and implement changes to operations flowing from the implementation of the Balanced Scorecard • lead the implementation of change across an enterprise.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues

	<p>(third-party reports)</p> <ul style="list-style-type: none"> • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz)
--	--

	<ul style="list-style-type: none"> • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Balanced Scorecard	The Balanced Scorecard is an approach to competitive systems and practices that sets out an organisation's vision and strategy by establishing and measuring enterprise activity in a number of different perspectives in addition to the normal financial perspective. Other perspective areas are customer, internal business process and learning and growth. For each perspective area the Balanced Scorecard emphasises establishing and measuring performance (metrics)
Organisation	<p>Organisation may include:</p> <ul style="list-style-type: none"> • a whole organisation • a discrete subsidiary, plant or division
Additional required perspectives	<p>Additional required perspectives may include:</p> <ul style="list-style-type: none"> • workforce • environment • occupational health and safety (OHS)

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405007A Introduce competitive systems and practices to a small or medium enterprise

Modification History

New unit, superseding MSACMS606A Introduce competitive manufacturing to a small or medium enterprise - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to introduce competitive systems and practices into a small or medium operations enterprise (SME)

Application of the Unit

This unit applies to the introduction of competitive systems and practices into a SME. The unit may also apply to any small or medium not-for-profit organisation seeking to improve their processes through competitive systems and practices. The unit covers any constraints that may be placed on how competitive systems and practices are introduced and which aspects of competitive systems and practices are introduced due to the limitations of being a SME.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to determine competitive systems and practices processes appropriate for a small business environment. This unit also requires communication and analysis skills to gather information about processes and implement competitive systems and practices strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse the current operations systems and processes	1.1	Review the reasons for introducing competitive systems and practices and confirm the expected benefits with relevant stakeholders
		1.2	Determine any internal limiting factors which will constrain the introduction of competitive systems and practices
		1.3	Determine any external limiting factors which will constrain the introduction of competitive systems and practices
		1.4	Quantify expected returns from achieving the benefits of introducing competitive systems and practices
2	Develop strategic and tactical plans to introduce competitive systems and practices to the SME	2.1	Develop a strategic plan for the SME that takes into account the nature of its business and relationships with suppliers and customers
		2.2	Where required, seek authority for the implementation of the strategic plan
		2.3	Identify components of competitive strategy which will yield quick returns
		2.4	Identify actions which will free up required resources to allow for the introduction of competitive systems and practices

- 2.5 Develop achievable tactical plans which are compatible with strategy
 - 2.6 Develop key performance indicators (KPIs) for strategic and tactical plans
 - 2.7 Consult with relevant stakeholders to confirm tactical plans
 - 2.8 Prioritise plans for order of implementation
- 3 Implement competitive systems and practices
- 3.1 Implement priority tactical plan
 - 3.2 Determine benefits from change
 - 3.3 Use benefits from priority plan to assist in the implementation of further tactical plans
 - 3.4 Review progress towards strategic objectives and adjust plans, as appropriate, in consultation with relevant stakeholders

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- analysing current processes used in the SME, including appropriateness of strategy, operations, and internal and external relationships, including value stream members
- distinguishing between and prepare strategic and tactical plans
- selecting and adapting appropriate competitive systems and practices and techniques for an SME environment, such as:
 - value stream mapping
 - 5S
 - Just in Time
 - mistake proofing
 - process mapping
 - kaizen and kaizen blitz
 - setting of KPIs/metrics
 - identification and elimination of waste
- developing KPIs appropriate for an SME
- communicating to individuals with different levels of literacy and numeracy
- monitoring implementation and establishing continuous improvement

Required knowledge

Required knowledge includes:

- competitive systems and practices principles and tools, including:
 - value stream mapping
 - 5S
 - JIT
 - mistake proofing
 - process mapping
 - kaizen and kaizen blitz
 - setting of KPIs/metrics
 - identification and elimination of waste
 - establishing customer pull
 - standardisation

- quick changeovers
- continuous improvement principles
- principles for deciding acceptable benefit/cost ratios in a SME

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	Evidence of the ability to organise implementation of competitive systems and practices in a SME should be available.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • analyse existing SME operations • determine competitive systems and practices key performance indicators for a SME organisation • determine improvements that deliver the greatest overall benefit • develop and supervise the implementation of competitive systems and practices strategy, techniques and tools in a SME.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a</p>

	<p>combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for assessment</p>	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six
---	--

	<p>sigma and three sigma</p> <ul style="list-style-type: none"> • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Stakeholders	<p>Stakeholders may include:</p> <ul style="list-style-type: none"> • managers • supervisors • employees and their representatives • shareholders • suppliers • customers • service providers
Internal limiting factors	<p>Internal limiting factors may include:</p> <ul style="list-style-type: none"> • free cash • management time and expertise • machinery • work organisation and workforce skills and knowledge
External limiting factors	<p>External limiting factors may include lack of bargaining power or effective communication with:</p> <ul style="list-style-type: none"> • suppliers

	<ul style="list-style-type: none"> • customers • financial institutions • other factors
Expected returns	<p>Expected returns may include factors such as:</p> <ul style="list-style-type: none"> • cost savings due to more consistent or higher quality • benefits from greater on-time delivery • savings from lower inventories and reduction in waste
Actions which will free up required resources	<p>Actions which will free up required resources will vary according to the size of the SME and the nature of the operations undertake. Examples include:</p> <ul style="list-style-type: none"> • reduction of inventory • reduction of scrap • decreased throughput times • changes in approval processes/delegations • use of computers instead of paper-based processes
Prioritise plans	<p>Prioritise plans according to criteria such as:</p> <ul style="list-style-type: none"> • greatest benefit • ease of implementation • best fit with strategy • available resources

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405010A Manage relationships with non-customer external organisations

Modification History

New unit, superseding MSACMS606A Manage relationships with non-customer external organisations - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to identify and manage relationships with non-customer external organisations, such as community groups, other businesses, training providers, research organisations and government departments.

Application of the Unit

This unit applies to a person who has policy responsibility in an organisation for managing external relationships that may impact on the performance, community standing or regulatory compliance of the organisation. Examples of the application of this unit include department leaders, managers or similar. The unit covers managing a range of external organisations to the maximum benefit of the organisation and the organisation's customers while also identifying areas of mutual interest and benefit with the external organisations. Relationships may or may not be initiated by the person's own organisation.

This unit does not cover the analysis and improvement of relationships between members of a value stream, such as suppliers and customers.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are also required. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into relationship systems and expectations.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify mutual interest	1.1	Clarify the reason contact was/is to be made for each relevant external organisation
		1.2	Gather information on extent of past contact and any positive or negative outcomes for own and external organisation
		1.3	Identify expectations of initiating organisation
		1.4	Analyse the breadth, depth and complexity of external organisations' expectations
		1.5	Discuss expectations, ability to meet those expectations, and areas of mutual interest with relevant internal and external representatives
2	Determine contribution of relationship	2.1	Identify any value contributions from relationship
		2.2	Identify waste arising from relationship
		2.3	Classify waste as necessary or unnecessary
		2.4	Set key performance indicators (KPIs) for future relationship
3	Manage the relationship	3.1	Measure current performance of relationship against expectations and KPIs
		3.2	Develop systems to enhance mutual benefit and value contributions from relationship
		3.3	Develop systems to minimise and control necessary

waste without causing harm

- 3.4 Eliminate unnecessary waste, where possible, without causing harm
- 3.5 Monitor KPIs and determine future strategy for the relationship
- 3.6 Continue to manage terminate the relationship in a manner which enhances the organisation

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using formal problem solving procedures, such as root cause analysis (RCA)
- analysing contributions to value from external relationships
- identifying waste (muda)
- developing formal and informal communication procedures with other individuals and organisations
- establishing sources of assistance in own organisation for external individuals and organisations
- interpreting documents, procedures and instructions for others
- establishing KPIs for relationships

Required knowledge

Required knowledge includes:

- strategic requirements of own organisation
- strategic benefits to the organisation from liaisons with external organisations
- possible external organisations which may offer benefits
- benefits which can be offered to the external organisations
- customer benefits/features from products and processes of own organisation
- waste (muda) elimination
- formal problem solving procedures (e.g. RCA)

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • analyse the value and waste in relationships • implement changes to relationships to improve
--	--

	<p>outcomes for their organisation and its customers</p> <ul style="list-style-type: none"> • monitor outcomes of a relationship against KPIs • communicate complex information to external representatives using a variety of methods and mediums.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace that is engaging with one or more non-customer external organisations.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • historical information on the relationship with external organisation and the involvement of the assessee • workplace procedures and plans • specifications and documentation relating to planned, currently being implemented, or implemented changes to relationships with non-customer external organisations • reports from supervisors/managers on interaction with external non-customer organisations • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and</p>

assessment	literacy capacity of the candidate and the work being performed.
-------------------	--

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems
--	---

	<p>and practices</p> <ul style="list-style-type: none"> • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Reasons for contact	<p>Reasons for contact may include:</p> <ul style="list-style-type: none"> • research • innovation • mutual cooperation • strategic alliances • computer (or other) technology • emergency response
Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product. Categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisation's customers
Necessary waste	<p>Necessary waste includes:</p> <ul style="list-style-type: none"> • any activity or cost which does not contribute directly to customer benefit/feature in the product, and which cannot be avoided (e.g. regulatory compliance and fixed costs) <p>Necessary waste cannot be eliminated but should be managed</p>
Unnecessary waste	<p>Unnecessary waste includes:</p> <ul style="list-style-type: none"> • any activity or cost which does not contribute directly to customer benefit/features in the product and can be avoided <p>Unnecessary waste should be eliminated as quickly as practical</p>

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS405011A Manage people relationships

Modification History

New unit, superseding MSACMC611A Manage people relationships - Not equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to manage the human relationship aspects of implementing and operating competitive systems and practices.

Application of the Unit

This unit applies to a person (who may be a manager, technical specialist or other person) who is required to work with employees and relevant people, encourage them to accept change and also to increase the quality, quantity and reliability of output consistent with customer requirements.

This unit primarily requires strong communication, teamwork and problem solving skills to achieve effective relationships that support a competitive systems and practices environment. Initiative, enterprise, planning and organising are also required to ensure relationships are monitored and issues are resolved proactively. The unit also includes aspects of self-management and learning to ensure improvement of own performance and communication skills.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Confirm organisation competitive systems and practices status	1.1	Establish number and status of competitive systems and practices techniques being used within the organisation
		1.2	Identify key performance indicators (KPIs) for each technique
		1.3	Identify key sections and value stream members responsible for each KPI
		1.4	Identify key personnel for communications
2	Develop an open environment	2.1	Establish and maintain regular dialogue between all levels and all relevant sections of the organisation
		2.2	Encourage a flow of communications in both directions
		2.3	Develop and maintain a formal mechanism for the flow of issues, concerns and suggestions in both directions
		2.4	Develop and maintain regular and frequent communication with all key stakeholders
3	Identify significant issues	3.1	In liaison with relevant team members/stakeholders, identify current and potential issues
		3.2	Assist team members/stakeholders to formulate issues

-
- | | | | |
|---|----------------------------|-----|--|
| | | 3.3 | Identify and define boundary and non-negotiable issues for all team members/stakeholders |
| | | 3.4 | Negotiate with relevant team members/stakeholders over actual and potential issues |
| 4 | Proactively resolve issues | 4.1 | Liaise with team members/stakeholders to develop agreed, and where possible, win-win solutions |
| | | 4.2 | Negotiate acceptable solutions, as required, in accordance with company practices/procedures |
| | | 4.3 | Obtain any required official authorisations |
| | | 4.4 | Consult with relevant stakeholders to develop implementation plan |
| | | 4.5 | Implement solution |
| 5 | Monitor ongoing situation | 5.1 | Determine relevant KPIs for plan |
| | | 5.2 | Check that implementation is proceeding to plan |
| | | 5.3 | Check for unforeseen consequences |
| | | 5.4 | Take appropriate action to resolve any arising issues |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- analysing the competitive operational techniques being implemented in the organisation and the stage of implementation, including identifying people, related needs and issues
- using formal problem solving procedures, such as root cause analysis (RCA)
- analysing work procedures
- developing formal and informal communication procedures with others in work area, team leaders and other employees relevant to competitive systems and practices changes
- establishing sources of assistance in the organisation for people experiencing difficulty with competitive systems and practices changes
- interpreting procedures and instructions relevant to own expertise for others
- establishing KPIs for own work

Required knowledge

Required knowledge includes:

- features and benefits of common competitive operational practices, including:
 - Just in Time (JIT) and kanban systems
 - preventative maintenance
 - 5S housekeeping
 - continuous improvement processes (kaizen)
 - waste (muda) elimination
 - formal problem solving procedures (e.g. RCA)
 - standardised work
- health, safety and environment (HSE) principles and requirements for organisation
- change implementation contacts and procedures for the organisation
- employee assistance mechanisms in the organisation
- current processes and principles of operation sufficient to enable communication with others on the impact of competitive operational changes
- sources of data on the process/plant and possible applications to information distribution
- methods of determining own skill needs and developing skills, if required

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the processes used and scope of products/ services supplied by the organisation and the deliverables expected by customers • relate processes and products/services to the competitive systems and practices implementation process and the stage of implementation • communicate and gain support for changes made as a result of the implementation of the competitive systems and practices implementation • develop formal and informal channels of communication, including feedback mechanisms • proactively resolve issues and problems raised by people with the competitive systems and practices implementation process.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation

	<ul style="list-style-type: none"> • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and
--	--

	<p>analysis</p> <ul style="list-style-type: none"> • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Key personnel	<p>Key personnel for communication include:</p> <ul style="list-style-type: none"> • formally identified managers, supervisors and workforce delegates as well as key opinion shapers (e.g. employees with specialist technical knowledge) on the issue being communicated
Formal mechanisms	<p>Formal mechanisms for communication will vary according to the organisation but may include:</p> <ul style="list-style-type: none"> • noticeboards • employee circulars • consultative committees • staff associations • union representatives • team leaders
Stakeholders	<p>Stakeholders may include:</p> <ul style="list-style-type: none"> • team members • personnel officers • industrial officers • union delegates • production management • human relations management • financial management

	<ul style="list-style-type: none">• engineering/technical personnel
--	---

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS405012A Manage workplace learning

Modification History

New unit, superseding MSACMC612A Manage workplace learning - Not equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to manage the learning and skill development for employees within an organisation implementing competitive systems and practices.

Application of the Unit

This unit applies to a person responsible for management of the identification of skills needed by employees to undertake required work in implementing competitive systems and practices, including arranging for any required learning processes. The unit does not cover trainer and assessor skills.

This unit primarily requires the application of skills associated with communication, teamwork, problem solving, initiative and enterprise in order to assess and address skill needs in an individual and in the organisation. Planning and organising is required to ensure skill development meets the needs of the organisation and aspects of self-management and learning are required to ensure improvement of performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Determine current skill requirements for employees	1.1	Establish range and stage of implementation of competitive systems and practices techniques in the organisation
		1.2	Consult with relevant stakeholders on skill requirements for effective implementation of competitive systems and practices techniques used in the organisation
		1.3	Ensure records/database of skill mix currently required by employees are maintained in accordance with procedures
		1.4	Re-assess and monitor the skills required by employees as organisation requirements change
		1.5	Consult with relevant stakeholders to predict any new/different skill requirements arising from changes to products, processes, equipment or work organisation
2	Determine current skill mix of employees	2.1	Ensure current records/database of skill profile of individuals are maintained
		2.2	Consult with relevant stakeholders and monitor the application of these skills in the workplace to ensure they remain current and valid
		2.3	Review the actual skill mix of employees compared to the required skill mix

-
- | | | | |
|---|---|-----|--|
| 3 | Make arrangements for skill development | 3.1 | Consult with employees and identify any mismatch of skills possessed and used and skills required |
| | | 3.2 | Identify any new skills required due to anticipated changes |
| | | 3.3 | Consult with relevant stakeholders to determine the best way to refresh existing skills/develop new skills |
| | | 3.4 | Develop individual skill development program |
| | | 3.5 | Ensure skill development arrangements are implemented in accordance with procedures |
| | | | |
| 4 | Forecast possible future skill needs | 4.1 | Examine strategic directions of organisation |
| | | 4.2 | Discuss possible future directions with relevant stakeholders |
| | | 4.3 | Determine possible long-term future skill requirements in consultation with relevant stakeholders |
| | | 4.4 | Develop plan to ensure skills are developed in advance of when they are required |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- analysing the competitive operational techniques being implemented in the organisation and the stage of implementation, including establishing skill needs to support implementation
- using formal problem solving procedures, such as root cause analysis (RCA)
- analysing work procedures
- developing formal and informal communication procedures with others in work area, team leaders and other employees relevant to competitive systems and practices changes
- establishing sources of assistance in the organisation for people experiencing difficulty with competitive systems and practices changes
- interpreting procedures and instructions relevant to own expertise for others
- establishing key performance indicators (KPIs) for own work

Required knowledge

Required knowledge includes:

- features and benefits of common competitive operational practices, including:
 - Just in Time (JIT) and kanban systems
 - preventative maintenance
 - 5S housekeeping
 - continuous improvement processes (kaizen)
 - waste (muda) elimination
 - formal problem solving procedures (e.g. RCA)
 - standardised work
- skill analysis methods or how to access skill analysis from relevant experts
- skill development methods or how to access skill development programs from relevant experts
- electronic and other systems to record and maintain training and skills records
- formal qualifications and skill standards relevant to competitive systems and practices and the processes and products of the organisation
- current processes and principles of operation sufficient to enable communication with others on the impact of competitive operational changes
- sources of data on the processes and/or products of the organisation and implications for workplace learning

- methods of determining own skill needs and developing skills, if required

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the processes used and scope of products/ services supplied by the organisation and the deliverables expected by customers • relate processes and products/services to the competitive systems and practices implementation process and the stage of implementation • establish skill needs from processes/products and competitive implementation process in the organisation • use formal and informal channels of communication, including feedback mechanisms to assist in identification of skill needs • manage delivery and recording of training to ensure required skills are gained by employees.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to past and current skill development for employees • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p>

	<ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for assessment</p>	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma
---	--

	<ul style="list-style-type: none"> • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Stakeholders	<p>Stakeholders may include:</p> <ul style="list-style-type: none"> • team members • personnel officers • industrial officers • union delegates • production management • human relations management • financial management • engineering/technical personnel
Skill development arrangements	<p>Skill development arrangements include:</p> <ul style="list-style-type: none"> • formal vocational and education delivery by a registered training provider (RTO) • education and training delivery by a higher education provider • non-accredited on and off the job training by the organisation, equipment suppliers, industry associations, and so on • coaching and mentoring • self-directed learning

	<ul style="list-style-type: none"> • arrangements for recording skills gained by employees
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the processes in an organisation • good operating practice as may be defined by industry codes of practice (e.g. Good manufacturing practice (GMP) and responsible care) • government regulations • industrial relations requirements and any classification changes that result from the acquisition of higher level skills <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405013A Facilitate holistic culture improvement in an organisation

Modification History

New unit, superseding MSACMC613A Facilitate holistic culture improvement in a manufacturing enterprise - Not equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required by a manager to help develop a culture within the organisation appropriate for achieving competitive systems and practices.

Application of the Unit

This unit applies to a manager in an organisation that has embarked on competitive systems and practices and who seeks to change/improve the organisation culture to be consistent with that required to maximise the benefits from a competitive systems and practices strategy.

This unit primarily requires the application of skills associated with communication, teamwork, problem solving, and initiative and enterprise in order to assess and address culture development needs in the organisation. Planning and organising is required to ensure a systematic approach to the development of an organisation's culture that supports competitive systems and practices processes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Facilitate a company wide appreciation for the competitive systems and practices strategy	1.1	Communicate with all levels of the organisation the objectives and benefits of a competitive systems and practices strategy
		1.2	Communicate to all levels of the organisation the techniques and methods that will be used in achieving the competitive systems and practices strategy
		1.3	Facilitate the development of a systems approach to how the organisation works
		1.4	Establish mechanisms to measure current understanding and support for competitive systems and practices amongst employees and other stakeholders
		1.5	Set targets for culture improvement from measurement of current understanding and support for competitive systems and practices
		1.6	Demonstrate a constancy of purpose for the organisation in the push for the continual improvement in all activities
		1.7	Break down any communication barriers between parts of the organisation that may inhibit the competitive systems and practices strategy
		1.8	Develop a work structure that allows for everyone to participate and be heard in the transformation of the

			organisation
2	Facilitate application of knowledge about variation and ways to improve the operational processes	2.1	Facilitate commitment to enterprise data collection procedures
		2.2	Facilitate the identification of variation in processes
		2.3	Facilitate review of processes with a view to reducing variation
		2.4	Encourage the approach of building quality in and eliminating the need for end of process inspection
3	Facilitate the development of knowledge and skill acquisition	3.1	Involve employees in identification of skill needs and any skills gaps
		3.2	Develop strategies for training, skills acquisition and employee self-improvement
		3.3	Set key performance indicators (KPIs) for training, skills acquisition and employee self-improvement
		3.4	Institute on and off-the-job training, as required
		3.5	Institute a vigorous program of education and self-improvement for all employees
		3.6	Monitor KPIs and adjust training, skills acquisition and employee self-improvement strategies and delivery, as required
4	Facilitate the development of support within the organisation for competitive systems and practices	4.1	Ensure sufficient resources and adequate equipment is available to meet the requirements of the competitive systems and practices strategy
		4.2	Encourage acceptance of change
		4.3	Encourage employee commitment to and responsibility for the quality of their own work
		4.4	Monitor the level of employee understanding and support for competitive systems and practices
		4.5	Provide continuous feedback and communication of progress at all levels in implementing the strategy

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- analysing the competitive operational techniques being implemented in the organisation and the stage of implementation, including identifying people, related needs and issues
- using formal problem solving procedures, such as root cause analysis (RCA)
- developing formal and informal communication procedures with others in work area, team leaders and other employees relevant to competitive systems and practices
- establishing processes for communication of organisation goals and KPIS, especially in regards to standardisation, elimination of waste and quality changes
- establishing sources of assistance in the organisation for people experiencing difficulty with competitive systems and practices changes
- interpreting procedures and instructions relevant to own expertise for others
- establishing KPIs for own work

Required knowledge

Required knowledge includes:

- features and benefits of common competitive operational practices, including:
 - Just in Time (JIT) and kanban systems
 - preventative maintenance
 - 5S housekeeping
 - continuous improvement processes (e.g. kaizen)
 - waste (muda) elimination
 - formal problem solving procedures (e.g. RCA)
 - standardised work
- operations and products of the organisation sufficient to understand employee responsibilities and skills and relevance to competitive systems and practices implementation
- employee assistance mechanisms in the organisation
- survey and other techniques to measure employee support and culture
- principles of change management

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify the competitive systems and practices used in the organisation • identify changes to work flowing from the implementation of the relevant competitive systems and practices • encourage monitoring of KPIs by employees for their own work • implement and monitor changes designed to improve team culture • establish and monitor employee culture key performance indicators.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues

	<p>(third-party reports)</p> <ul style="list-style-type: none"> • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz)
--	--

	<ul style="list-style-type: none"> • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Systems approach	<p>A systems approach enables persons to see how work gets done and effect of changes and shows the internal/external relationships through which products and services are produced and may include considerations of:</p> <ul style="list-style-type: none"> • customer • supplier • value stream member • member of the public • other external individual, group or organisation
Mechanisms to measure current understanding and support for competitive systems and practices	<p>Understanding and support for competitive systems and practices may be measured through a variety of qualitative and quantitative methods, including:</p> <ul style="list-style-type: none"> • employee surveys • information from toolbox meetings and other employee consultations • monitoring of suggestion schemes • individual consultations with selected employees and employee representatives
Work structures	<p>Work structures may include:</p> <ul style="list-style-type: none"> • use of teams (e.g. self-directed and cross functional)

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405014A Develop a communications strategy to support operations

Modification History

New unit, superseding MSACMC614A Develop a communications strategy to support production - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop and implement a communications strategy to support employees in a production or operational environment where competitive systems and practices are being implemented.

Application of the Unit

This unit applies to a person (who may be a manager, technical specialist or other person) who is required to analyse, plan, and determine and implement required communication strategies for production or operational employees engaged in implementing competitive systems and practices. The unit can also apply to planning and then implementing modifications to an existing strategy.

The unit applies to not only communicating information required to gain and maintain support for competitive systems and practices but also strategies that assist with the achievement of competitive systems and practices outcomes, such as visualisation strategies for layouts and employee information stations.

This unit primarily requires the application of skills associated with developing effective communication strategies. Problem solving, initiative and enterprise, and planning and organising are required to ensure communications are targeted and meet the needs of stakeholders. This unit also requires aspects of self-management and learning to ensure improvement of own communication effectiveness.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Determine information needs of employees and production or operations systems	1.1	Examine competitive systems and practices strategy and determine broad information framework
		1.2	Examine the production or operational processes and their requirements and determine the information needs of employees in these areas
		1.3	Examine operational support areas and determine the information needs of employees
		1.4	Discuss information used and desired with employees at all relevant levels, and involve team and other key personnel in strategy development to ensure awareness, learning and commitment
		1.5	Examine control systems to determine their data needs
2	Select communication strategy	2.1	Analyse required information flows
		2.2	Determine access requirements by information users
		2.3	Evaluate suitability of communication media for required information flows and access
		2.4	Consider implications of contingencies and non-conformances for communication strategy
		2.5	Discuss possible strategy with relevant stakeholders

- 2.6 Select an appropriate strategy or strategies
- 3 Implement strategy
 - 3.1 Develop a list of what needs to be achieved
 - 3.2 Determine resources required to implement strategy
 - 3.3 Obtain authority for communication media to be developed
 - 3.4 Monitor development of communication media and take appropriate corrective action, as required
 - 3.5 Deploy developed communication media
- 4 Monitor ongoing situation
 - 4.1 Determine relevant indicators for communication strategy
 - 4.2 Monitor indicators
 - 4.3 Re-evaluate communication needs on a regular basis
 - 4.4 Make improvements to the communication strategy, as appropriate

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying the competitive systems and practices strategies being implemented in the organisation and stage of implementation
- using formal problem solving procedures, such as root cause analysis (RCA)
- analysing and planning for communication needs of production and operations employees
- developing formal and informal communication procedures with employees in production and operational areas using a variety of media and formats
- linking communication strategy key performance indicators (KPIs) to KPIs for implementation of competitive systems and practices
- establishing feedback, control and monitoring arrangements to gauge the success of communication strategies
- briefing key personnel on the communication strategies
- interpreting documents, procedures and instructions for others
- giving presentations and briefings

Required knowledge

Required knowledge includes:

- strategic requirements of own organisation
- common techniques used in competitive systems and practices and key concepts required to be communicated to employees
- communication media, relevant software and standard formats

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • analyse competitive systems and practices
--	--

	<p>implementation and determine information flow requirements</p> <ul style="list-style-type: none"> • communicate information verbally and in writing across different levels of complexity using a variety of methods and mediums • monitor outcomes of communication strategies against KPIs • plan and implement strategies to make gains from competitive systems and practices apparent and easily understood to different audiences • determine communication needs during contingencies and non-conformances.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented communication strategies and procedures relevant to the assessee • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and</p>

	disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materilas Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree
--	--

	<p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Operations support areas	<p>Operations support areas refers to areas other than production and may be located in the organisation or be in an external organisation that provides support services as part of its business. Examples include:</p> <ul style="list-style-type: none"> • office • logistics • sales • marketing • insurance • legal • training and utilities providers
Information access requirements	<p>Information access requirements include:</p> <ul style="list-style-type: none"> • timing of access (e.g. occasional, periodic and continual) • method of access (e.g. visual/auditory/tactile access) • online/hard copy access • access locations
Communication media	<p>Communication media include:</p> <ul style="list-style-type: none"> • terminals, computers, and so on, with built in memory • internet • hard copy manuals, such as standard operating procedures, occupational health and safety (OHS) and training manuals • verbal briefings and informal conversations • circulars and letters • signage • instruction displays • tags and isolations/lockouts • permits to work/clearances • visual factory type displays • painted walkways
Stakeholders	<p>Stakeholders may include:</p>

	<ul style="list-style-type: none">• team members• personnel officers• industrial officers• union delegates• production and operations management• human relations management• financial management• engineering/technical personnel
--	--

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405020A Develop quick changeover procedures

Modification History

New unit, superseding MSACMT620A Develop quick changeover procedures - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop/improve changeovers for equipment, processes or operations. It includes critically analysing existing changeovers, applying quick changeover principles, and developing improved changeover procedures.

Application of the Unit

This unit applies to managers, technical specialists or similar in an organisation that has adopted or is adopting a quick changeover approach to its changeovers. The changeovers may be to equipment, processes or operations. This unit applies to the structured development and/or improvement of the changeover procedures.

This unit requires the application of skills associated with communication, problem solving, initiative, enterprise, planning and organising in order to analyse and determine changeover procedures. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into the development of procedures.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse changeover	1.1	Critically observe changeover process
		1.2	Identify steps in changeover
		1.3	Identify start situation and required finish situation for changeover
2	Apply quick changeover principles	2.1	Identify changes to the start situation and required finish situation which are possible
		2.2	Identify internal and external changeover activities
		2.3	Identify activities which could be improved/eliminated
		2.4	Eliminate/reduce adjustments required after changeover
		2.5	Develop improved changeover process and recommendations for implementation procedure
		2.6	Liaise with relevant people to validate recommendations
3	Assess and minimise risks in changeover	3.1	Analyse hazards and risks from all steps in changeover
		3.2	Apply ergonomic principles and hierarchy of control to each equipment and manual hazard
		3.3	Assess any regulatory risk in changeover

- 3.4 Minimise hazards during changeover ensuring final risk profile is acceptable
- 4 Implement improved changeover
 - 4.1 Acquire any required resources and approvals
 - 4.2 Organise trials of improved changeover
 - 4.3 Monitor trial
 - 4.4 Make adjustments to changeover process
 - 4.5 Implement improved changeover process

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- critically analysing an existing changeover, including a detailed examination of all actions and delays and the times taken
- determining key steps in changeover
- identifying regulatory implications and other risks changes to procedures
- differentiating between habitual practice and necessary activity
- identifying opportunities to maximise external set up work
- communicating with others to explain and supervise changed procedures

Required knowledge

Required knowledge includes:

- principles of quick changeover
- equipment and operating environment of activities subject to quick changeover
- regulatory and commercial obligations and risk environment for operations subject to quick changeover analysis
- safe movement and other relevant occupational health and safety (OHS) principles
- relevant procedures
- purposes/requirements of changeover
- sourcing of resources
- trialling procedures

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • observe and analyse steps in an existing changeover • manage risks in adjusting changeover procedures
--	---

	<ul style="list-style-type: none"> • develop changeover adjustments that deliver the greatest overall benefit • supervise changeover procedure trials.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenario, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory
---	---

	environment and the industry sector
Changeover	<p>Changeover may refer to:</p> <ul style="list-style-type: none"> • equipment exchanges, such as an exchange of dies/tools (traditional) • change between batches • change between campaigns (process manufacturing) • quantum equipment/process change to produce a different product
Quick changeover	<p>Quick changeovers may be known by a number of alternative titles depending on the industry sector. In manufacturing quick changeovers may be referred to as:</p> <ul style="list-style-type: none"> • single minute exchange of die (SMED) • single-digit set-up – performing a set-up activity in a single-digit number of minutes (i.e. fewer than ten) • one touch exchange of die (OTED) – literally, changing a die with one physical motion, such as pushing a button – broadly, an extremely simple procedure for performing a set-up activity <p>While the term die is the traditional term, organisations that require changeovers using other equipment are also covered by this unit.</p> <p>This unit may not be applicable to a totally continuous operation producing only the one product, or simultaneous range of products. This is not applicable to a maintenance/pressure vessel inspection (PVI) shutdown as experienced by the continuous process manufacturers. However, where there are continuous operations on a campaign basis, it may be applied to the development of changeover procedures between campaigns or similar changeovers</p>
Set-up work	<p>Set-up time is the work required to change over a machine or process from one item or operation to the next item or operation. It can be divided into two types:</p> <ul style="list-style-type: none"> • internal set-up work that can be done only when the machine or process is not actively engaged • external set-up work that can be done concurrently with the machine or process performing productive duties
Principles	<p>The principles of quick changeover include:</p> <ul style="list-style-type: none"> • the principles of efficient movement as well as an understanding of equipment features and aids, including jigs, fixtures, locating devices and

	mechanical aids which will reduce human effort and time required
Improved/eliminated	<p>Activities which should be improved/eliminated include:</p> <ul style="list-style-type: none"> • those which take time or are unreliable in terms of outcome • those which are difficult to do or have adverse OHS implications (e.g. repetitive strain injury, back injury and finger injuries)
Hazards and risks	<p>Hazards and risks include those related to:</p> <ul style="list-style-type: none"> • OHS • regulatory compliance • environment • commercial and contractual obligations <p>An acceptable risk profile for changeovers is one which, at the minimum, meets regulatory and organisation requirements and does not increase the current risk profile</p>
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plan • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405022A Design a process layout

Modification History

New unit, superseding MSACMT622A Design a process layout - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to design a process layout, typically a cellular flow, for either a jobbing shop or a continuous process manufacturer.

Application of the Unit

This unit provides the skill for a technical expert to apply the principles of competitive systems and practices to process design layout as distinct from volume production layout. While the application of the unit may be for an initial layout, in many cases it is likely to be for the redesign of an existing layout.

The unit is written on the assumption that there is an existing process. Where this is not the case, then additional competency in equipment/process design and selection will also be required through units from an appropriate technical qualification or Training Package.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to design a process for the manufacture of enterprise products that incorporates team operations, product flow, infrastructure and the layout of the physical environment and related technology. This unit has a strong emphasis gathering, analysing and applying information.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify the products and processes used in the organisation	1.1	Obtain or develop a process map of the existing process
		1.2	Identify all/main products/classes of products
		1.3	Obtain forecast sales and sales pattern of products/classes
		1.4	Obtain profiles of products/classes
		1.5	Group the products/classes into compatible families
2	Engineer the process	2.1	Make a preliminary selection of required equipment/technology/process for each process or product family
		2.2	Estimate required resource times for each family
		2.3	Calculate total resourcing required for each family
		2.4	Estimate appropriate lot size
		2.5	Determine viability of proposed families
		2.6	Examine draft proposal for possible improvements in process consistent with the competitive systems and practices strategy of the organisation

- 3 Design the infrastructure
 - 3.1 Consult on layout needs with all stakeholders
 - 3.2 Identify physical infrastructure required by system
 - 3.3 Identify information and control infrastructure required
 - 3.4 Identify work organisation required
 - 3.5 Identify occupational health and safety (OHS) and regulatory requirements to be taken into account
 - 3.6 Identify workforce development and training requirements
 - 3.7 Check the availability of required infrastructure and compatibility with requirements

- 4 Layout the process
 - 4.1 Draft proposed process flow map
 - 4.2 Draft proposed configuration diagram
 - 4.3 Draft proposed space plan/layout
 - 4.4 Check availability of services/structural suitability, as appropriate
 - 4.5 Validate proposed layout with all relevant stakeholders
 - 4.6 Layout the process/work cell
 - 4.7 Develop implementation plan in liaison with relevant stakeholders
 - 4.8 Review layout after implementation

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating at all levels in the organisation and to individuals of different levels of literacy and numeracy
- undertaking self-directed problem solving and decision-making on issues of a broad and/or highly specialised nature and in a wide variety of contexts
- producing process flow maps
- analysing the relationship between equipment, components, products, services and operators for existing and future layouts
- problem solving layout-related problems to root cause
- planning and organising implementation plans, including communication to stakeholders and any necessary training
- calculating and estimating size, volume and area and other layout related measures

Required knowledge

Required knowledge includes:

- typical customer requirements, including:
 - order size
 - order pattern
- processing requirements of products and jobs
- capabilities and maintenance requirements (e.g. access and services) of equipment
- abilities and skills of workforce
- OHS and regulatory requirements that may affect layout
- business requirements from layout

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and	A person who demonstrates competency in this unit must
--	---

<p>evidence required to demonstrate competency in this unit</p>	<p>be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • analyse products, operations and equipment and determine efficiencies that can be achieved by improved layout • determine OHS and regulatory impacts on a layout • supervise implementation of layouts • analyse implemented layouts and suggest further improvements.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>

Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
--	--

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted</p>
--	--

	<p>so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Profiles	<p>Profiles of products may include:</p> <ul style="list-style-type: none"> • components/materials needed to manufacture • equipment/technology/processes required to manufacture • volume of activity to manufacture forecast amount
Compatible families	<p>Compatible families include:</p> <ul style="list-style-type: none"> • products/classes requiring identical or similar operations equipment, technology or processes
Required resource times	<p>Required resource times may include:</p> <ul style="list-style-type: none"> • set-up time • equipment time • person time • process time
Lot size	<p>Lot size may include:</p> <ul style="list-style-type: none"> • external lot size • internal lot size • transfer batch size • kanban size
Viability	<p>Viability includes:</p> <ul style="list-style-type: none"> • appropriate calculated processing times • adequacy of equipment utilisation • acceptable maintenance implications • ability to meet OHS requirements • ability to meet environmental requirements • compliance with any legislative and regulatory requirements • acceptable to stakeholders
Stakeholders	<p>Stakeholders include:</p> <ul style="list-style-type: none"> • customers • employees • equipment suppliers and contractors (especially if new equipment required)

	<p>Depending on the process and location, stakeholders may also include:</p> <ul style="list-style-type: none"> • regulatory authorities • local community representatives • utilities (e.g. water and power)
Physical infrastructure	<p>Physical infrastructure may include:</p> <ul style="list-style-type: none"> • containers • material handling equipment • utilities supply (e.g. steam, air, gas, electricity and water)
Information and control infrastructure	<p>Information and control infrastructure may include:</p> <ul style="list-style-type: none"> • quality assurance • statistical process control (SPC)/six sigma • planning systems/software • data collection and control systems/software
Work organisation	<p>Work organisation includes:</p> <ul style="list-style-type: none"> • number of personnel • skills mix of workforce

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405023A Develop a levelled pull system for operations and processes

Modification History

New unit, superseding MSACMT623A Develop a levelled pull system of manufacturing - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop and level a customer-driven demand pull system for operations and processes in order to balance the flow of work and minimise inventories.

Application of the Unit

This unit primarily applies to volume-based manufacturing organisations. However, the skills covered by the unit may also be applied in other organisations where the business is based on high volume processes initiated by customer demand signals (e.g. orders). The unit covers the production planning skills needed to develop and level a demand pull system which meets the business needs of the organisation. This may apply to the initial development of a pull system, or the continuous improvement of an existing system.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Problem solving, initiative and enterprise, and planning and organising are required to determine effective operations sequences and flow systems. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into system designs.

Depending on the organisation and its operations the following units may also be relevant:

- *MSS402080A Undertake root cause analysis*
- *MSS405002A Analyse and map a value stream*
- *MSS405021A Develop a Just in Time system*
- *MSS405022A Design a process layout*
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse production systems	1.1	Acquire an 'as is' value map of the process for all major products
		1.2	Separate repeated products from specials
		1.3	Consult with production, maintenance, supervisory and management workforce on current production system and processes
		1.4	Establish rate of flow required to meet customer demand
		1.5	Identify process steps causing problems
		1.6	Analyse inventories within process and determine causes of high inventories
		1.7	Determine costs of problems and inventories
		1.8	Develop improved flow sequence and future value map
2	Establish sequence	2.1	Identify equipment and processes which can be sequenced by co-location
		2.2	Identify equipment which is not suitable for co-location
		2.3	Identify pacemaker process
		2.4	Establish/review location of equipment for desired sequencing

-
- | | | | |
|---|---------------------------------|-----|---|
| 3 | Initiate or develop flow system | 3.1 | Determine rate and variability of demand for product |
| | | 3.2 | Compare capability of flow sequence to demand rate and variability |
| | | 3.3 | Set flow rate to level demand at pacemaker and handle variability |
| | | 3.4 | Identify trigger for pacemaker process |
| | | 3.5 | Establish kanban system for other process parts |
| | | | |
| 4 | Balance the work | 4.1 | Determine target time per product |
| | | 4.2 | Standardise work processes and operations and establish procedures to monitor variation |
| | | 4.3 | Adjust product/batch production to balance work |
| | | 4.4 | Arrange for any required competency development of workforce |
| | | 4.5 | Arrange for implementation of system |
| | | 4.6 | Monitor operation of system and take appropriate action |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying and analysing production and other processes to identify variation from specifications
- solving problems to determine causes of variations to root cause
- communicating at all levels in the organisation and value stream and to audiences of different levels of literacy and numeracy
- undertaking self-directed problem solving and decision-making on issues of a broad and/or highly specialised nature and in a wide variety of contexts
- analysing long or critical process steps and determine if they are pacemaker step
- setting and standardising operational processes around the requirements of the pacemaker process
- planning and organising implementation of a levelled pull production system
- documenting process steps
- performing calculations and interpreting data, including charts and diagrams related to establishing rate of flow and variation in process steps

Required knowledge

Required knowledge includes:

- technical and regulatory limits that must be adhered to in operations
- processing requirements of products or services offered by the organisation
- capabilities of equipment
- capabilities and skills of the workforce
- production planning techniques
- methods of calculating rates of demand and flow of work (e.g. takt and pitch)
- techniques for achieving a smooth and consistent flow of work, such as:
 - identifying pacemaker process
 - levelling the flow of work
 - balancing the allocation of resources
 - balancing the allocation of work
 - Just in Time (JIT)
 - Heijunka boxes
 - visual displays

- relationship of level of inventory to efficiency and waste

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • acquire a value stream map for current products and processes • analyse process • perform required calculations to determine flow rate and variability • correctly identify pacemaker process • balance the work • monitor implementation of a levelled pull system and suggest improvements.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation

	<ul style="list-style-type: none"> • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • JIT, kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and
--	---

	<p>analysis</p> <ul style="list-style-type: none"> • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Product	<p>Product includes:</p> <ul style="list-style-type: none"> • individual products and product groups/families
Inventories	<p>Inventories within process may include:</p> <ul style="list-style-type: none"> • cycle stock which reflects the replenishment quantity and frequency • buffer stock to meet demand variability and forecast errors • safety stock required to guard against quality and delivery failures upstream
Pacemaker	<p>Pacemaker processes is that process which sets the pace for the flow of operations/work through the enterprise. Pacemaker processes may include, but are not limited to:</p> <ul style="list-style-type: none"> • process steps which are significantly longer than other production stages • critical technical or quality steps in the production process
Takt time	<p>Takt time is the time required to complete one job cycle if the customer's time and volume expectations are to be met, i.e. the available time divided by the number of units required, and so may include, but is not limited to:</p> <ul style="list-style-type: none"> • time per piece where applied to piece work

	<ul style="list-style-type: none"> • time per tonne or litre when applied to bulk product • time per work item when applied to an office or service environment • deadlines required to meet delivery dates when applied to project work
Pitch	Pitch is the takt time averaged over a defined period and with available resources giving the rate of flow required to meet customer demand
Balance work	<p>Balance work means balancing:</p> <ul style="list-style-type: none"> • time of production • effort required by workforce and equipment • work organisation • job design • quality considerations • waste and other cost considerations between stations/equipment/processes to achieve levelled pull within allowable time per product <p>Balance work consideration also means:</p> <ul style="list-style-type: none"> • undertaking adequate consultation with stakeholders • meeting occupational health and safety (OHS) and environmental requirements • any other regulatory and legislative requirements

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405030A Optimise cost of a product or service

Modification History

New unit, superseding MSACMT630A Optimise cost of product* - Not equivalent

* Prerequisite *MSACMT631A Undertake value analysis of product costs in terms of customer requirements* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required to examine the costs of a product or service and determine methods of reducing costs.

Application of the Unit

This unit applies to an individual who is required to undertake a detailed study of a product or service's costs, including analysing it by its cost components to determine the best method of lowering the cost overall. This unit differs from *MSS405031A Undertake value analysis of a product or process costs in terms of customer requirements*, in that it looks at all costs, including overheads and takes a wider and more traditional approach to the cost of the product. Information and cost reduction strategies gained from the application of this unit may support other cost approaches in the enterprise, including value stream costing.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information. Problem solving, initiative and enterprise, and planning and organising are required to calculate cost components and determine cost optimisation strategies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into costing methods.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse total cost components of a product or service	1.1	Identify all cost components of product or service
		1.2	Allocate cost components to major categories, such as overhead, depreciation, energy, consumables and labour
		1.3	Distinguish between costs which directly deliver customer features/benefits and waste
2	Optimise costs	2.1	Analyse causes of costs which lead to customer features/benefit
		2.2	Determine methods of increasing the customer benefit/cost ratio
		2.3	Analyse causes of waste costs
		2.4	Determine methods of reducing/eliminating waste costs
		2.5	Analyse interactions between cost components
		2.6	Check that one method of reducing costs does not cause an increase in another cost/reduction in consumer benefit
		2.7	Check that cost reduction plans do not reduce required levels of regulatory compliance or occupational health and safety (OHS)

- 3 Implement cost optimisation
 - 3.1 Develop cost optimisation plans
 - 3.2 Negotiate with relevant people to agree on implementation plans
 - 3.3 Take actions to implement the cost optimisation
 - 3.4 Monitor the implementation of the cost optimisation
 - 3.5 Make adjustments to the plan, as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- undertaking self-directed problem solving and decision-making on issues of a broad and/or highly specialised nature and in a wide variety of contexts
- communicating at all levels in the organisation and value chain and to audiences of different levels of literacy and numeracy
- identifying relevant cost component categories for organisation, product and process
- identifying customers, including final customer and features/benefits as valued by customers
- expressing customer features/benefits in cost terms
- determining application scope of cost reduction plan, including product/s, areas, employees and suppliers included in plan

Required knowledge

Required knowledge includes:

- cost components of product
- major costs which are controllable (and how to control them)
- concept and types of waste (muda)
- interrelationship of cost components and costs and benefits, including:
 - methods of estimating costs/benefits
 - acceptable benefit/cost ratios

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • determine relevant cost categories for a product or service • determine which costs are waste
--	---

	<ul style="list-style-type: none"> • develop a cost optimisation plan • implement and monitor the plan .
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads, hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace project(s) • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
---	---

Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product. Within operations, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers
Cost	<p>Cost includes:</p> <ul style="list-style-type: none"> • the monetary value of expenditures able to be directly identified for supplies, services, direct labour, materials, components, cost of inventory, faults and reworks, rejects/scrap, equipment and other items used in the production of the product • allocations and estimates for indirect costs (e.g. indirect labour, rent, energy, water and cost of capital) where a direct monetary value cannot be identified
Cost optimisation plans	<p>Cost optimisation plans should include:</p> <ul style="list-style-type: none"> • application scope (e.g. product/s, services, areas, employees and suppliers included in plan) • target costs and target cost reductions • implementation period • method of monitoring • method of communicating progress to stakeholders

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405031A Undertake value analysis of product or process costs in terms of customer requirements

Modification History

New unit, superseding MSACMT631A Undertake value analysis of product costs in terms of customer requirements* - Not equivalent

* Prerequisite *MSACMT230A Apply cost factors to work practices* - removed

Unit Descriptor

This unit of competency covers the skills and knowledge required by an employee who is required to analyse products and processes to determine the value-adding factors, including design and processing costs that most impact on meeting customer requirements and which may also include competitor benchmarking. The unit also includes implementing identified changes that increase cost-efficiency. The unit may be applied individually or in a team environment.

In this unit an employee uses an analysis of the benefits/features which a customer perceives to be in a product or service as a basis for determining appropriate or unnecessary cost and so identifying and reducing waste.

Application of the Unit

This unit applies to an individual who undertakes the value analysis of a product or service, establishing the features/benefits obtained by customers from the cost components relating to those benefits. From this appropriate or waste cost will be determined and actions taken to either reduce waste or improve saleability.

This unit differs from *MSS405030A Optimise cost of a product or service*, in that it requires costs to be measured against customer features/benefits and is designed to contribute to value stream costing. *MSS405030A Optimise cost of a product or service* complements this unit by allowing detailed analysis of all costs, including overheads.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information. Problem solving, initiative and enterprise, and planning and organising are required to determine cost-efficiencies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into costing methods.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|---|-----|--|
| 1 | Analyse customer benefits to determine appropriate or waste costs | 1.1 | Analyse product or service to determine features/benefits perceived by customer in product |
| | | 1.2 | Analyse cost components of product or service and determine those which deliver customer features/benefits and those which are either appropriate or waste |
| | | 1.3 | Determine any additional features that may be added to improve saleability |
| | | 1.4 | Analyse waste cost components and allocate to direct and indirect cost categories |
| | | 1.5 | Determine options for reducing direct and indirect waste costs |
| | | 1.6 | Select cost-related actions which maximise customer benefits and minimise costs |
| | | 1.7 | Where required, undertake competitor benchmarking to provide reference points |

- 2 Analyse performance variance
 - 2.1 Identify waste processing or operational steps for product or service following completion of customer benefit analysis
 - 2.2 Analyse all costs and determine methods of reducing costs/waste
 - 2.3 Develop plan and recommendations for actions required to achieve cost improvement or added customer benefits to improve saleability
 - 2.4 Submit plan and recommendations to stakeholders

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- undertaking self-directed problem solving and decision-making on issues of a broad and/or highly specialised nature and in a wide variety of contexts
- communicating at all levels in the organisation and value chain and to audiences of different levels of literacy and numeracy
- determining customer features/benefits added to products at each operational step
- relating cost components to customer features/benefits
- distinguishing between direct and indirect costs
- identifying relevant cost component categories for product
- determining application scope of cost reduction plan, including products, areas, employees and suppliers included in plan
- undertaking competitor benchmarking for reference in cost analysis

Required knowledge

Required knowledge includes:

- customer features/benefits from products
- impact of customer features/benefits on sales, market share and firms profitability
- performance and cycle times for products made or service provided
- major costs which are controllable (and how to control them)
- types of waste (muda)
- methods of reducing waste
- methods of reducing cycle time
- desirability of improving performance and methods of reducing cycle time

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and	A person who demonstrates competency in this unit must
--	--

<p>evidence required to demonstrate competency in this unit</p>	<p>be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • identify customer features/benefits for a product and their impact on market share or saleability of the product • determine direct/indirect costs in a product • determine which costs are waste • analyse cycle times and make suggestions for reduction in cycle time • develop a cost/waste reduction plan.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and</p>

	disability.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree
--	---

	<p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product.</p> <p>Within operations, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers
Cost	<p>Cost includes:</p> <ul style="list-style-type: none"> • the monetary value of expenditures able to be directly identified for supplies, services, direct labour, components, cost of inventory, faults and reworks, rejects/scrap, equipment and other items used in the production of the product • allocations and estimates for indirect costs (e.g. indirect labour, rent, power and water) where a direct monetary value cannot be identified
Determine customer feature/benefits	<p>This unit does not require that customer features/benefits must be obtained by the person undertaking the unit directly contacting customers. The features/benefits may have already been determined by sales and marketing personnel and passed on to operations. However, the unit requires that the product or process must be analysed to determine how the product or process supplies the features/benefits and by which step/feature of the product or process</p>
Performance	<p>Performance is may be thought of as the rate of output or delivery of the performance or service compared to the</p>

	rate required to meet demand for the product or service
Cycle time	Cycle time includes: <ul style="list-style-type: none">• the normal time to complete an operation on a product
Pull	Pull is the concept of producing to demand, rather than for stock or some forecast

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405032A Analyse cost implications of maintenance strategy

Modification History

New unit, superseding MSACMT632A Analyse cost implications of maintenance strategy - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to analyse the cost implications of different maintenance strategies and to adjust or adopt a strategy to minimise or eliminate unnecessary costs.

Application of the Unit

This unit applies to an individual in an organisation who is selecting or reviewing its proactive maintenance strategy. While technical factors are significant in the choice of maintenance strategy and tools, cost factors will also impact on the selection of a maintenance strategy. This unit covers the cost analysis of maintenance strategies and complements the technical analysis covered in MSS405081A Develop a proactive maintenance strategy. The technical analysis may be performed by the same or a different person to the person undertaking the cost analysis.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying costing information and consulting with maintenance personnel. Problem solving, initiative and enterprise, and planning and organising are required to analyse and estimate the cost of maintenance strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse cost components of maintenance	1.1	Determine cost of failure of plant/equipment
		1.2	Determine cost of a planned maintenance shutdown activity, including costs of re-start
		1.3	Determine cost of maintenance for a planned activity
		1.4	Determine cost of maintenance for an unplanned activity
		1.5	Determine costs of condition monitoring
		1.6	Identify cost implications of different maintenance strategies
2	Estimate life cycle costs of plant/equipment	2.1	Determine initial capital cost
		2.2	Estimate servicing, maintenance and repair costs
		2.3	Estimate production and other costs associated with service, maintenance and repair
		2.4	Determine depreciation and other applicable allowances
		2.5	Estimate ancillary costs, such as training, commissioning and productivity loss
		2.6	Estimate technological life and costs of changing to current technology/costs of retaining obsolete equipment

- 2.7 Estimate annualised costs in present value terms
 - 2.8 Identify life cycle cost implications for strategy
- 3 Liaise with proactive maintenance strategy developer
 - 3.1 Identify cost implications for different strategies
 - 3.2 Negotiate a strategy which minimises total costs
 - 3.3 Monitor the implementation of the strategy to ensure the costs are minimised
 - 3.4 Make required adjustments to strategy

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- undertaking financial modelling and calculations relevant to different maintenance scenarios
- reading and interpreting charts and diagrams
- communicating with stakeholders, including technical and production staff to identify implications of maintenance strategies
- identifying sources of information on depreciation, allowances and ancillary costs
- analysing data and qualitative information on impact of different maintenance strategies on meeting customer needs
- solving problems to root cause
- preparing strategies and recommendations for stakeholders

Required knowledge

Required knowledge includes:

- techniques, calculations and data used in different maintenance strategies
- cost components of maintenance strategies
- interrelationship of cost components and maintenance activities

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • identify and analyse data and other information on current and potential maintenance strategies • communicate effectively with operators, maintenance personnel, engineers and other stakeholders on implications of maintenance strategies • make recommendations on optimal maintenance
--	--

	strategies from a cost perspective.
Context of and specific resources for assessment	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
Method of assessment	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
<p>Maintenance strategies and</p>	<p>Maintenance strategies and techniques may include:</p>

techniques	<ul style="list-style-type: none"> total productive maintenance (TPM) reliability centred maintenance (RCM) root cause analysis (RCA) mean time between failures (MTBF) failure mode and effects analysis (FMEA) condition monitoring
Cost components of maintenance	<p>For costing purposes, maintenance strategies should include:</p> <ul style="list-style-type: none"> direct costs, such as labour and materials, and also include comparison with cost of equipment replacement, re-engineering, and breakdown repair strategies, as well as cost of lost production under different maintenance strategies
TPM	TPM is an application of total quality management to maintenance with the intention of increasing reliability, getting it right first time and increasing OEE
RCM	RCM moves maintenance from reactive, or even planned/programmed towards a focus on uptime and OEE
RCA	RCA is a formal problem solving technique. In RCA there are many possible causes of any problem. Eliminating some will have no impact, while eliminating others will ameliorate the problem. However, elimination of the root cause will eliminate the problem completely. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem
OEE	<p>OEE is the combination of the main factors causing loss of productive capacity from equipment/plant and is:</p> $OEE = \text{availability} \times \text{performance} \times \text{quality rate}$ <p>where:</p> <ul style="list-style-type: none"> availability takes into account losses due to breakdown, set-up and adjustments performance takes into account losses due to minor stoppages, reduced speed and idling quality rate takes into account losses due to rejects, reworks and start-up waste
Uptime	Uptime refers to the overall availability of the plant (it is the inverse of downtime) or the unavailability of the

	plant. Ideal uptime is 100%
MTBF	<p>MTBF is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is failing.</p> <p>There are many possible causes of any problem. Eliminating some will have no impact, others will ameliorate the problem. However, elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.</p> <p>Depending on the equipment, operations and procedures of the organisation, alternative statistical records of maintenance and maintenance related events may be substituted for MTBF providing they relate strategies for improving OEE.</p>
FMEA	<p>FMEA is a systematic approach that identifies potential failure modes in a system, product, or process caused by either design or operations/assembly process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring.</p> <p>Some industry sectors have highly adapted forms of FMEA and may practice traditional FMEA in say their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification.</p> <p>HAZOP) is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability.</p>
Condition monitoring	<p>In this unit condition monitoring is used to describe the process of analysing the implications of condition monitoring data for proactive maintenance whether it be obtained from non-destructive testing (NDT) reports, visual assessment by experts, diagnostic reports obtained from SCADA or other enterprise or equipment software and product or process quality analyses</p>

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS405040A Manage 5S system in an organisation

Modification History

New unit, superseding MSACMT640A Manage 5S system in a manufacturing environment - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required for the overall management of the 5S system in an organisation.

Application of the Unit

This unit applies to an individual who is responsible for ensuring the smooth operation and continuous improvement of the 5S system in an organisation. This may be for an initial introduction of, or for the ongoing implementation and continuous improvement resulting from, 5S.

This unit requires the application of skills associated with problem solving, planning, communication and teamwork.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Organise an appropriate environment for 5S	1.1	Ensure managers and other key stakeholders support and understand 5S
		1.2	Arrange for team leaders to develop/maintain skills required for 5S
		1.3	Ensure team leaders are developing/maintaining skills required in their team members
		1.4	Ensure procedures and work practices reflect 5S needs and regulatory requirements
		1.5	Practise 5S in own work
		1.6	Eliminate roadblocks to 5S
2	Audit 5S implementation	2.1	Undertake spot checks of compliance
		2.2	Review workplace and records for indicators of compliance/non-compliance
		2.3	Encourage all levels of the workforce to routinely suggest areas for improvement
		2.4	Discuss 5S routinely with team leaders to seek ideas for implementation of improvement suggestions and encourage identification of non-conformance

- 3 Improve 5S
 - 3.1 Negotiate solutions to non-conformances
 - 3.2 Implement agreed solutions
 - 3.3 Work with team leaders to develop opportunities for improvements
 - 3.4 Provide necessary resources for improvements
 - 3.5 Ensure procedures and practices change to reflect improvements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with stakeholders on aims and objectives of 5S program in the organisation
- mentoring and monitoring team leaders in their skills and knowledge of 5S and the organisations objectives for 5S
- conducting formal and informal meetings and explaining 5S and related concepts
- reviewing regulatory requirements for implications for 5S implementation
- facilitating team goals, activities and communications and accessing resources
- problem solving 5S poor performance and problems to root cause
- identifying requirements and negotiating resources for 5S implementation across the organisation
- planning and prioritising activities of teams
- identifying problems in 5S implementation caused by gaps in skills and/or knowledge and developing options to address them

Required knowledge

Required knowledge includes:

- organisation operations and structure
- principles of efficient workplace organisation
- purposes and methodology of 5S
- operation procedures relevant to jobs in the organisation
- relevant regulatory requirements
- processes for identification of skill gaps
- methods of addressing skill gaps
- ways of encouraging team leaders and operators to find and suggest areas for improvement
- methods of making/recommending improvements
- methods of accessing required resources
- non-conformance, what they are, assessment of severity and action to be taken

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • encourage and monitor a systematic approach to implementing 5S • analyse areas and records for evidence of 5S conformance/non-conformances • manage non-conformances in implementation of 5S • lead and motivate others in achieving 5S outcomes and making improvements to the 5S systems.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads, hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess</p>

	<p>underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping
--	---

	<ul style="list-style-type: none"> • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations <p>Procedures may be:</p> <ul style="list-style-type: none"> • written, verbal, computer-based or in some other format
Roadblocks	<p>Roadblocks include:</p> <ul style="list-style-type: none"> • all factors which are inhibiting the smooth implementation of 5S
5S	<p>5S is a system of work organisation originally developed in Japan based around housekeeping principles. A close translation of the five stages in the housekeeping approach is:</p> <ul style="list-style-type: none"> • sort • set in order • shine • standardise • sustain
Sort	<p>Sort involves keeping only what is absolutely necessary for the processes in the work area. Sort includes:</p> <ul style="list-style-type: none"> • clearing the work area of all non-essential equipment

	<p>and materials</p> <p>Non-essential items include:</p> <ul style="list-style-type: none"> those not required to either produce product, conduct process or operations or make required adjustments to equipment during process or operations
Set in order	<p>Set in order includes:</p> <ul style="list-style-type: none"> assigning required equipment and materials appropriate locations in the work area (locations should be clearly marked and labelled to show the item and proper location)
Shine	<p>Shine includes:</p> <ul style="list-style-type: none"> keeping the work area clean at all times. This should be carried out to a regular daily schedule against allowed time and, on most occasions, at the end of a job
Standardise	<p>Standardising includes:</p> <ul style="list-style-type: none"> activities that help maintain the order and the housekeeping standards using procedures and checklists developed from a procedure
Sustain	<p>Sustain includes:</p> <ul style="list-style-type: none"> making sure that daily activities are completed every day regardless of circumstance undertaking inspections, including: <ul style="list-style-type: none"> informal inspections carried out often, at least weekly formal inspections carried out at least monthly <p>Specific actions should be followed up to generate continuous improvement</p>
Items in work area	<p>Items in work area may include:</p> <ul style="list-style-type: none"> tools jigs/fixtures materials/components plant and equipment manuals personal items (e.g., lunch boxes and posters) safety equipment and personal protective equipment other items which happens to be in the work area

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS405050A Determine and improve process capability

Modification History

New unit, superseding MSACMT650A Determine and improve process capability* - Equivalent

* New prerequisite *MSS404052A Apply statistics to operational processes* superseding MSACMT452A Apply statistics to processes in manufacturing

Unit Descriptor

This unit of competency covers the skills and knowledge required to determine the actual (as distinct from design) capability of a process and then to analyse that process to remove assignable causes and reduce random causes. This would typically be done by a manager or technical expert support person either working in a team, or in close liaison with key stakeholders. Process capability is typically calculated using standard deviations.

Application of the Unit

This unit applies to an individual (who may be a production manager, plant/process engineer, technical specialist or similar) who is responsible for developing plans to stabilise and then improve process capability and following agreement the implementation of the plans to improve process capability. The organisation may use either a six sigma or three sigma process.

This unit primarily requires the application of skills associated with communication in gathering and analysing data and consulting with relevant personnel. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to determine causes to variations and implement solutions. This is done in an environment using computer technology and also requires aspects of self-management and learning to ensure feedback and new learning is integrated into process improvements and operations management control systems.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MSS404052A Apply statistics to operational processes

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Obtain data for process capability study	1.1	Identify the process requiring capability analysis including relevant procedures
		1.2	Identify customer specifications for product or service
		1.3	Obtain process capability data
2	Analyse data	2.1	Identify assignable causes of variation in liaison with relevant personnel
		2.2	Develop solutions to eliminate variation due to assignable causes in liaison with relevant personnel
		2.3	Analyse random variations for possible causes in liaison with relevant personnel
		2.4	Confirm causes of random variation
		2.5	Develop solutions to reduce random variations in liaison with relevant personnel

- 3 Take action to improve process capability
 - 3.1 Develop plans to implement solutions
 - 3.2 Liaise with relevant personnel to implement solutions
 - 3.3 Gain necessary approvals, as required
 - 3.4 Monitor implementation and make adjustments, as required
 - 3.5 Determine new/revised process capability
 - 3.6 Implement revised process capability regime

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using a variety of statistical methods and calculations
- communicating and negotiating at all levels in the organisation and value stream and with individuals of different levels of literacy and numeracy
- negotiating with employees, suppliers and customers, where necessary, to achieve access to, or collection of, data
- planning process and data collection changes required for process improvement, including:
 - objectives
 - performance indicators to be monitored to indicate success of change
 - resources required
 - training required
 - communication and liaison required with employees, suppliers and customers
 - implementation period required
- analysing variations and categorising into assignable and random cause
- undertaking self-directed problem solving and decision-making on issues of a broad and/or highly specialised nature and in a wide variety of contexts
- working in and leading teams for data collection and process improvement
- using software computers and terminals, as required, to collect and analyse data

Required knowledge

Required knowledge includes:

- data collection methods
- data processing techniques required to establish variability and normal distribution
- calculate three sigma or six sigma processes, as relevant
- random and non-random results and processes for recognition of assignable causes
- causes of different types of non-random results
- causes of random variation
- process understanding sufficient to translate the data into variations in the process and determine methods of controlling them

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • collect or obtain data relevant process capability data from a variety of sources data • work with people and analyse data to determine assignable causes • plan and prepare improvement proposals • monitor implementation of improvement proposals.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will</p>

	<p>be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time
--	--

	<ul style="list-style-type: none"> • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Six sigma	<p>Six sigma refers to:</p> <ul style="list-style-type: none"> • a statistical tool for recording defects and determining capability which equates to only 3.4 defects per million opportunities for each product or service transaction <p>Six sigma is also used as a general term covering a competitive systems and practices approach. Six sigma training typically covers several units of competency in this Training Package</p>
Three sigma	<p>Three sigma refers to:</p> <ul style="list-style-type: none"> • a traditional statistical process control uses three sigma limits which equates to 3 defects per thousand opportunities for each product or service transaction
Process capability data	<p>Process capability data includes:</p> <ul style="list-style-type: none"> • customer requirements for product or service • process stability (control chart) performance • other charts and data
Procedures	<p>Procedures may include:</p> <ul style="list-style-type: none"> • work instructions • standard operating procedures • formulas/recipes • batch sheets • temporary instructions and similar instructions provided for the smooth running of the plant • good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) • government regulations

	Procedures may be: <ul style="list-style-type: none">• written, verbal, computer-based or in some other format
--	--

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405060A Develop the application of enterprise control systems in an organisation

Modification History

New unit, superseding MSACMT660A Develop the application of enterprise systems in manufacturing - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to continuously modify and improve or develop new enterprise-wide information technology (IT) based control systems, such as Supervisory Control and Data Acquisition (SCADA), Enterprise Resource Planning (ERP), Materials Resource Planning (MRPII) and similar. Typically the development of such a system will be in liaison with an appropriate technical expert who may be an internal expert or an external consultant.

Application of the Unit

This unit applies to an individual responsible for the development and implementation of new systems or modifications/changes to the current system. While the individual might generate the ideas for change themselves and also undertake a significant part of the final implementation, they may also be working closely with an appropriate technical expert (such as the software system supplier) who may actually make the modifications.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising skills are required to determine and implement effective enterprise systems and modifications. This unit also requires computer skills and aspects of self-management and learning to ensure feedback and new learning is integrated into system planning.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Monitor information and control needs of organisation	1.1	Check the use of current information
		1.2	Check the operation of current control systems
		1.3	Communicate regularly with key information users regarding any new or changed information control needs, including information needs from and to value stream
		1.4	Identify short comings in information and control provision
		1.5	Take appropriate action on information and control needs to meet organisational needs
2	Check the current system against organisation needs	2.1	Check the routine use of the system
		2.2	Check any system alarm or non-conformance notification and control operation
		2.3	Communicate regularly with key stakeholders about current system use and application
		2.4	Determine effect of non-conformance on enterprise system
		2.5	Identify problems/issues

- 2.6 Take appropriate action on problems and issues
- 3 Determine developments needed in a new or significantly modified system
 - 3.1 Identify needs requiring a new system or development of modifications to the current system
 - 3.2 Draft scope, specifications and outcomes required
 - 3.3 Liaise with key stakeholders and relevant technical experts to refine scope, specifications and outcomes needed in new or modified system
 - 3.4 Agree final scope, specifications and outcomes
- 4 Develop system
 - 4.1 Develop project plan
 - 4.2 Ensure ongoing consultation with all relevant stakeholders
 - 4.3 Manage development project
 - 4.4 Manage trialling of modified system
 - 4.5 Ensure modified system meets organisational requirements
- 5 Implement modified system
 - 5.1 Liaise with all affected personnel
 - 5.2 Develop and agree an implementation strategy
 - 5.3 Ensure all personnel have required skills
 - 5.4 Implement modified system
 - 5.5 Monitor implementation and modify, as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- identifying organisation needs from enterprise control system, including:
 - critical features (e.g. occupational health and safety (OHS), regulatory compliance and emergency shutdown)
 - essential features and operation controls
 - access levels and access security
 - cost of installation and operation
 - interfaces (e.g. human-machine, machine-machine, and system-system, e.g. SCADA with financial control systems)
- correctly accessing and inputting information
- communicating with stakeholders on information and control requirements
- matching monitoring, control and reporting capability of system to organisation requirements
- analysing features of enterprise system and determining training needs
- solving problems to root cause
- monitoring trials and initial implementation of enterprise control system

Required knowledge

Required knowledge includes:

- capability of resource planning/SCADA systems, as appropriate
- information and control needs of organisation/process
- project management
- support/training/skill development mechanisms available for access by personnel

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate	A person who demonstrates competency in this unit must
---	--

<p>competency in this unit</p>	<p>be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • analyse organisation needs and match to enterprise control system features • determine critical features required in enterprise control system • modify system as a result of trials or changing needs.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for</p>	<p>Assessment processes and techniques must be culturally</p>

assessment	appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.
-------------------	---

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as SCADA software, ERP systems, MRP and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices
--	---

	<ul style="list-style-type: none"> • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
<p>SCADA</p>	<p>SCADA refers to:</p> <ul style="list-style-type: none"> • a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and/or give required information personnel for action <p>In the continuous operations sector, the SCADA system is sometimes integrated into other sophisticated computer control systems, such as distributed control system (DCS) and indeed these systems do merge in advanced systems. These organisations may simply refer to their SCADA as the DCS or other similar term (such as the proprietary name of the computer system)</p>
<p>Resource planning</p>	<p>Planning software is a general term applied to a number of software systems which integrate a range of business information, such as:</p> <ul style="list-style-type: none"> • finance • logistics maintenance and production <p>It is frequently referred to by names, such as ERP and MRP/MRP II</p>
<p>Value stream</p>	<p>The value stream begins with the customer and includes all actions (both value adding and non value added) by both internal sections/departments and external organisations to meet a customer requirement.</p> <p>Depending on the operations and the customer requirement stages where value stream actions may occur include:</p> <ul style="list-style-type: none"> • sales outlet/representative • information gathering, data analysis and research • product design • raw material sourcing • intermediate processing • final assembler/collation/preparation • support services (e.g. accounting, finance and legal) • storage and delivery to customer • after market support

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS405061A Determine and establish information collection requirements and processes

Modification History

New unit, superseding MSACMT661A Determine and establish information collection requirements and processes - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to determine what information is needed to support decision-making in a competitive systems and practices environment and then to set about establishing required information collection systems. This would usually be done as part of a team and would require consultation with all key stakeholders.

Application of the Unit

This unit covers the determination of data needs and collection methods for an organisation or specific plant or process. This will typically be done in liaison with a wide range of people, each of whom will have their own specific information requirements. There will need to be balanced and interpreted into a workable set of data to be collected.

This unit is primarily focused on those decisions which are non-routine and so need specific collection of data, or for those decisions which are routine, the establishment of a routine data collection protocol to allow for the decisions to be made based on appropriate, reliable data. This unit primarily requires the application of communication and problem solving skills associated with determining information requirements and processes of information collection. Initiative and enterprise, and planning and organising are also required to ensure information targets specific factors. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into the development of processes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | | |
|---|--|-----|--|
| 1 | Analyse decisions to be made | 1.1 | Identify personnel to be included in the analysis process |
| | | 1.2 | Determine the consequences of the decisions in liaison with relevant personnel |
| | | 1.3 | Determine the variables which can be controlled |
| | | 1.4 | Determine the variables which cannot be controlled |
| | | 1.5 | Determine the consequences of a change in these variables in liaison with affected personnel |
| 2 | Define factors which cause variables to change | 2.1 | Identify factors which are able to be controlled |
| | | 2.2 | Identify factors which are not able to be controlled |
| | | 2.3 | Identify means of measuring these factors, or indicators for the values of these factors |
| | | 2.4 | Compile a list of measurements/indicators required. |
| | | 2.5 | Communicate with team members and involve them in development of factors and changes to ensure awareness and facilitate learning |
| 3 | Develop data collection protocols | 3.1 | Determine methods of making measurements |
| | | 3.2 | Determine methods of quantifying indicators |
| | | 3.3 | Determine the benefit/cost of automated (or other) collection of data |

- 4 Develop systems to produce required information
 - 4.1 Identify user of information and their needs and abilities
 - 4.2 Determine data processing needs to produce required information
 - 4.3 Determine information distribution channels
 - 4.4 Determine skill development need for recipients of information
 - 4.5 Implement systems to produce information
 - 4.6 Monitor implementation and make adjustments, as required

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating and negotiating at all levels in the organisation and value stream and with individuals of different levels of literacy and numeracy
- negotiating with employees, suppliers and customers, where necessary, to achieve access to, or collection of, data
- undertaking self-directed problem solving and decision-making on issues of a broad and/or highly specialised nature and in a wide variety of contexts
- developing or sourcing indicators for factors not easily measured
- liaising with stakeholders on acceptable limits for benefits and costs in data collection procedures

Required knowledge

Required knowledge includes:

- business needs of the organisation/section
- information needs of individuals within the organisation
- possible data available/potentially available to the organisation
- methods of collecting available data
- relationship between data available and information required
- methods of converting data into useful information
- methods of developing indicators for factors resistant to measurement

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	A person who demonstrates competency in this unit must be able to provide evidence of their ability to: <ul style="list-style-type: none">• determine relevant data, including variables for decisions
---	--

	<ul style="list-style-type: none"> • determine factors and variables subject to control • develop strategies for data collection that deliver the greatest overall benefit • implement data collection systems.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for assessment</p>	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being</p>

	performed.
--	------------

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices
---	---

	<ul style="list-style-type: none"> the size of the enterprise the work organisation, culture, regulatory environment and the industry sector
Variables	<p>Variables for this unit are:</p> <ul style="list-style-type: none"> measurable inputs, outputs or characteristic of processes or operations that have no fixed quantitative value.
Factors	<p>Factors include:</p> <ul style="list-style-type: none"> any variable that is a part of, contributes to, or leads to the quantum of another variable. Ideally factors themselves should be able to be measured. However, in some operations there may be factors that are resistant to objective measurement (e.g. creativity in design, customer colour preferences and life cycles for new products). In these cases indicators for the value of these factors may need to be developed (e.g. through surveys, approximations or experiments)
Decision	<p>A decision may include:</p> <ul style="list-style-type: none"> a change, improvement, new/altered process or system which requires data in order to monitor it or where data is required to make a decision regarding the selection of alternatives

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405062A Develop a documentation control strategy for an organisation

Modification History

New unit, superseding MSACMT662A Develop a documentation control strategy for a manufacturing enterprise - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop and implement a documentation control strategy for an organisation implementing a competitive systems and practices strategy or which is part of the value stream for such an organisation. The documentation control strategy might be needed to comply with ISO9000 or other reasons.

Application of the Unit

This unit applies to an individual (who may be a manager, technical specialist or other person) in an organisation implementing a competitive systems and practices strategy who is required to develop and/or improve a system to ensure operations and related supporting documents are controlled in a manner which is appropriate for their use in the organisation.

This unit primarily requires the application of problem solving, initiative and enterprise, and planning and organising skills associated with developing effective documentation strategies. This work is done in the context of using computer technology and also requires aspects of self-management and learning to ensure improvement of own performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Identify and obtain agreement to document management procedures and standards	1.1	Establish an appropriate working group of stakeholders
		1.2	Agree on purpose and scope of document management standards, including interaction with production, maintenance, logistics, sales and marketing systems
		1.3	Identify any relevant external standards, requirements and conventions
		1.4	Agree on document control, tracking, updating and storage processes
		1.5	Prepare document management processes and standards and circulate to relevant stakeholders
		1.6	Negotiate any variations
2	Determine document style and establish standards and conventions	2.1	Consider potential document styles
		2.2	Agree on document conventions and layout
		2.3	Agree on standard symbols, abbreviations and similar
		2.4	Produce a style sheet, document model or template, as appropriate
		2.5	Check document style conforms to document management standards

- 2.6 Circulate to relevant stakeholders and negotiate any variations
- 3 Implement document control strategy
 - 3.1 Develop a document control strategy and procedures, including arrangements for ongoing review of strategy
 - 3.2 Establish mechanisms to check documents conform to the control strategy
 - 3.3 Arrange for appropriate staff development
 - 3.4 Monitor implementation of document control strategy
 - 3.5 Make improvements to the documentation control strategy, as appropriate

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- leading and motivating a working group
- analysing scope and purpose of an organisation and matching to document control needs
- preparing briefings and arranging training for employees in document control strategy
- determining file management strategy for files from relevant computer applications which may include:
 - word processing
 - spreadsheets
 - databases
 - drawing and drawing linked applications e.g. computer aided drafting (CAD)/computer aided manufacturing (CAM)
- researching style manuals and other style reference materials for possible application to organisation style templates and guidelines
- using oral and written communication to convey broad and specialised information in a variety of media and formats

Required knowledge

Required knowledge includes:

- needs of the organisation and its' individuals
- word processing, spreadsheet and other software capable of producing files and documentation
- types of documentation used in organisations
- version and distribution control systems
- archiving systems
- document destruction systems
- legislative and regulatory requirements associated with documentation relevant to the organisation

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • identify and establish organisation goals and requirements for document control • access and use relevant external standards, requirements and conventions to determine implications for document control strategy • produce document control guidelines and procedures and verify for accuracy and suitability for application across organisation.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will</p>

	<p>be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time
--	--

	<ul style="list-style-type: none"> • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Documents	<p>Documents may be:</p> <ul style="list-style-type: none"> • hard copies of documentation, such as correspondence, procedures, contracts, agreements, specifications, production and other records, manuals and other reference materials • computer files, including word processed files and spreadsheets • technical drawings both hard copy or CAD files
Document control strategy	<p>The document control strategy should include procedures for:</p> <ul style="list-style-type: none"> • authoring control • version control • access and distribution • review and revision • storage and archiving • access and security • approval for and means of destruction
Archiving of documentation	<p>Archiving of documentation:</p> <ul style="list-style-type: none"> • may be required to comply with legislative or regulatory requirements, and/or with organisational policy • should include an indexing system that specifies the period for which the document is to be retained • should comply with relevant requirements regarding physical storage and security
Distribution control	<p>Distribution control may consist of:</p> <ul style="list-style-type: none"> • a listing of recipients of each type of document and, where required, a document tracking system

<ul style="list-style-type: none">• External standards, requirements and conventions	External standards, requirements and conventions may include: <ul style="list-style-type: none">• ISO900 requirements• AGPS Style manual• engineering and other technical standards• drawing standards• organisational style/marketing guides• documentation requirements of suppliers, customers and regulatory agencies
---	--

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405070A Develop and manage sustainable energy practices

Modification History

New unit, superseding MSACMT670A Develop and manage sustainable energy practices - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to identify opportunities for, and make improvements in, sustainable energy practices in an organisation. Areas covered include efficient use of raw materials, management of waste, electricity conservation, heat conservation and management, water management, environment protection and environment obligations of enterprises.

Application of the Unit

This unit applies to an individual who is required to establish systems for improved energy practices in an organisation. The unit involves analysis of energy used in processes and operations and categorising the energy use according to lean principles. The unit covers categorising energy into necessary use and waste with the waste being further categorised into necessary waste and unnecessary waste. Strategies for eliminating or minimising energy waste are covered with benefit/cost analyses being required for strategies.

This unit primarily requires the application of communication and problem solving skills associated with collecting and analysing information. An ability to analyse energy use of technology or processes will be applied. Initiative and enterprise, and planning and organising are also required to develop plans for efficient energy use. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into the development of processes.

Where the quantum of energy used is not easily available or a formal calculation of energy use is required through an energy balancing calculation (e.g. for regulatory purposes) the unit *MSS015011A Conduct a sustainability energy audit* may also be required.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Analyse energy use	1.1	Identify all energy consuming processes
		1.2	Determine quantity and nature of energy consumed
		1.3	Analyse energy consumed and generated in different parts of the process
		1.4	Determine source of energy consumed in process
2	Develop energy conservation plans	2.1	Determine the efficiency of use of energy by all energy consuming processes
		2.2	Determine causes of low efficiency of use
		2.3	Develop plans for increasing the efficiency of energy use
		2.4	Determine benefit/cost of plans
3	Develop energy trading plans	3.1	Compare energy generating activities with energy consuming activities
		3.2	Determine feasibility of energy consuming activities using energy generated by other activities
		3.3	Develop plans for energy trading

- 3.4 Determine benefit/cost of plans
- 4 Investigate alternative sources of energy
 - 4.1 Develop a specification for energy required
 - 4.2 Identify a range of sources for that energy
 - 4.3 Determine benefit/cost for alternative energy sources
- 5 Develop plans for more efficient energy use
 - 5.1 Compare benefit/costs for different alternatives developed
 - 5.2 Rank proposals based on benefit/cost compare to limited resources
 - 5.3 Check proposals meet regulatory requirements
 - 5.4 Recommend proposals for improving energy efficiency
- 6 Implement selected plans
 - 6.1 Liaise with relevant people to implement energy efficiency plans
 - 6.2 Follow through to ensure implementation occurs
 - 6.3 Monitor implementation and make adjustments, as required
 - 6.4 Check new energy usage to ensure improvements have occurred

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- using common units, symbols and formulae common in energy-related calculations
- applying mathematics
- communicating with a variety of groups and individuals using different media
- solving complex problems individually and as part of a team
- reviewing range of existing data for suitability and determining where new data gathering is required
- planning and organising complex whole of organisation activities relating to energy use, including objectives, timelines, implementation procedures and monitoring strategy
- determining where energy balancing techniques are required
- accessing manufacturers' data and other sources of energy consumption for individual equipment and processes
- mapping processes and energy flows
- calculating, manipulating and interpreting numerical data
- ranking energy consumption and waste for area, sites or processes
- calculating the efficiency of use of energy by equipment and processes
- consulting with technical and operative staff on possible non-obvious energy wastes
- consulting and negotiating with stakeholders on implementation process for sustainability improvement

Required knowledge

Required knowledge includes:

- types and sources of energy
- methods of analysing energy efficiency for different types of energy
- methods of converting energy values from one form to another
- alternative sources of energy
- principles of energy efficiency
- relevant regulatory/legislative requirements
- energy trading schemes and procedures
- organisation and process needs for energy

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of their ability to:</p> <ul style="list-style-type: none"> • gather appropriate data to allow energy analyses • categorise energy use into necessary use and waste • develop options for energy reduction including presenting of alternatives and benefit/cost analyses • develop strategies and plans for energy use and monitor implementation.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will</p>

	<p>be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time
--	--

	<ul style="list-style-type: none"> • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Waste	<p>Waste (also known as muda in the Toyota Production System and its derivatives) is any activity which does not contribute to customer benefit/features in the product.</p> <p>Within operations, categories of waste include:</p> <ul style="list-style-type: none"> • excess production and early production • delays • movement and transport • poor process design • inventory • inefficient performance of a process • making defective items • activities which do not yield any benefit to the organisation or any benefit to the organisations customers
Necessary waste	<p>Necessary waste is:</p> <ul style="list-style-type: none"> • any activity or cost which does not contribute directly to customer benefit/feature in the product, and which cannot be avoided (e.g. regulatory compliance and fixed costs). Necessary waste cannot be eliminated but should be managed
Unnecessary waste	<p>Unnecessary waste is:</p> <ul style="list-style-type: none"> • any activity or cost which does not contribute directly to customer benefit/features in the product and can be avoided. Unnecessary waste should be eliminated as quickly as practical
Energy	<p>Energy includes:</p> <ul style="list-style-type: none"> • all sources of energy used by the process be it electricity, gas or mobile transport fuel

	<p>The uses of the energy will also be potentially wide and include:</p> <ul style="list-style-type: none"> • heating and cooling • moving materials (e.g. pumps and conveyors) • modifying materials (e.g. cutting, forming, weaving, knitting, reacting, moulding, extruding and mixing) • generating pressure/vacuum or providing motive power for equipment and transport
<p>Energy trading</p>	<p>Energy trading means both formal trading where the organisation investigates alternatives to:</p> <ul style="list-style-type: none"> • the buying of energy through alternative suppliers and tender processes • selling of excess energy produced by the organisation to energy companies or other producers <p>and</p> <ul style="list-style-type: none"> • internal trading of excess energy from one area to an energy consuming area elsewhere in the organisation

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405075A Facilitate the development of a new product

Modification History

New unit, superseding MSACMT675A Facilitate the development of a new product* - Equivalent

* New prerequisite *MSS404052A Apply statistics to operational processes* superseding MSACMT452A Apply statistics to processes in manufacturing

Unit Descriptor

This unit of competency covers the skills and knowledge required to facilitate the development of a new or evolutionary product within an existing range of products and encompasses design for manufacture, determining the process capability and the facilitation of its initial production.

Application of the Unit

This competency applies to an individual responsible for the development of a new product. The unit assumes an initial product design has been prepared by a designer and also assumes a working knowledge of all main processes and materials so that an informed choice can be made between them. The person will normally be a manager or technical expert and be required to work closely with a range of other management and operations personnel. The unit requires balancing the business and technical sides of the new product and would typically be done as part of a cross-functional team. This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to facilitate the development of a new product. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into competitive systems and practices.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MSS403052A Apply statistics to operational processes

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Confirm design brief of new product in consultation with relevant people	1.1	Review product design with customer and other key stakeholders and agree on technical specification, aesthetic requirements, timelines, cost and other market requirements
		1.2	Determine any regulatory, industry code/intellectual property requirements for product
		1.3	Identify any required tooling, process or equipment needs
		1.4	Confirm design brief, including relevant drawings, to meet needs
		1.5	Determine design brief conforms to organisation objectives and capability
		1.6	Obtain approval on total design brief from all relevant personnel

- | | | | |
|---|--|-----|---|
| 2 | Determine material requirements for product | 2.1 | Select appropriate materials or combination of materials/components in liaison with key stakeholders |
| | | 2.2 | Determine material/component testing and evaluation regime required to meet product end use requirements, including regulatory/industry code requirements |
| | | 2.3 | Arrange for testing and evaluation of trial materials/components |
| | | 2.4 | Guide material trial process and interpret material trial results |
| | | 2.5 | Determine final materials/components specifications and details of value chain |
| 3 | Determine process requirements for product | 3.1 | Select appropriate process to make product in liaison with key stakeholders and based on relevant factors |
| | | 3.2 | Determine any special process/equipment requirements for this product |
| | | 3.3 | Communicate with production personnel to determine any concerns and/or training or other needs |
| | | 3.4 | Adjust the design, as required, to satisfy customer and production needs |
| 4 | Ensure process needs for new product have been met | 4.1 | Liaise with equipment design/procurement personnel |
| | | 4.2 | Interpret hardware specifications and ensure they are appropriate for the job required |
| | | 4.3 | Liaise with process personnel to ensure appropriate draft procedures for new product have been developed |
| | | 4.4 | Validate product cost and design meets organisation requirements and capability |
| 5 | Trial new product through the process | 5.1 | Design trialing procedure to deliver required information |
| | | 5.2 | Liaise with relevant stakeholders |
| | | 5.3 | Ensure health safety and environment (HSE) |

- requirements are observed
- 5.4 Coordinate the trialling of the new product
 - 5.5 Interpret product trial results and guide product trial process
 - 5.6 Tune process to optimise production of new product
- 6 Determine process capability
- 6.1 Plot appropriate statistical process control charts
 - 6.2 Determine confidence limits
 - 6.3 Compare confidence limits with product specification
- 7 Coordinate product trials
- 7.1 Determine product testing and evaluation regime required to meet end use requirements, including regulatory/industry code requirements
 - 7.2 Arrange for testing and evaluation of trial product/prototype
 - 7.3 Interpret product trial results and guide product trial process
 - 7.4 Determine final product specification in liaison with key stakeholders
 - 7.5 Make required changes to materials, process and equipment
- 8 Implement standard procedures for new product
- 8.1 Monitor initial production and, in liaison with appropriate team members, adjust process, conditions and materials to ensure the product and process outcomes conform to customer, regulatory and organisation requirements
 - 8.2 Ensure process specifications are updated and reflect the optimised operation developed
 - 8.3 Ensure standard operating procedures are correct for the new product
 - 8.4 Ensure equipment and other hardware records are updated to reflect additions/changes

- 8.5 Ensure project records are complete and all required reports have been completed and submitted
- 8.6 Archive records according to company procedure

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- selecting and justifying the selection of:
 - type of material/material specification
 - appropriate process for a range of product/market applications
 - material and product testing procedures
- applying theoretical principles to predict:
 - properties of product based on materials selected
- identifying effects of processes and processing on the final properties of the product mathematically determine:
 - product cost estimates
 - process time
 - cost/benefit to organisation of new product
- communicating at all levels in the organisation and value stream and to audiences of different levels of literacy and numeracy
- interpreting and making recommendations based on:
 - field test results
 - market analysis data
 - trialling data
 - organisation objectives and business plan
 - equipment and operations capacity

Required knowledge

Required knowledge includes:

- materials, equipment and process sufficient to choose an appropriate combination of materials and process to achieve the end use function of the product
- enterprise procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards

Evidence Guide

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
<p>Organisation objectives and requirements</p>	<p>Organisation objectives and requirements may include:</p> <ul style="list-style-type: none"> • Board or management guidelines on:

	<ul style="list-style-type: none"> • cost/profit requirements for new products (e.g. minimum return and capital expenditure limits) • encouragement/discouragement of different types of products (e.g. on sustainability, ethical or other non-individual customer related criteria) • potential or actual capacity conflicts with other customers or product/process activities • activities that require/may require community consultation (e.g. on noise or other environmental grounds)
Tools and equipment	<p>Tools and equipment may include:</p> <ul style="list-style-type: none"> • understanding of use of all standard processing equipment • relevant personal protective equipment
Typical regulatory requirements	<p>Typical regulatory requirements may include:</p> <ul style="list-style-type: none"> • occupational health and safety (OHS) • environmental regulations • structural codes • product/industry specific requirements
Typical problems	<p>Typical problems may include:</p> <ul style="list-style-type: none"> • defining product end-use requirements in terms meaningful to the product design and manufacture • matching suitable materials and processes to the product needs and company expertise and facilities • matching (and improving) process capability to product tolerances
Relevant factors	<p>Relevant factors may include:</p> <ul style="list-style-type: none"> • type of material • dimensional precision of product • length of run/number of products • required aesthetics • size and complexity of product • available capital funding • process equipment available • HSE factors

Range Statement

Not applicable.

Unit Sector(s)

Unit sector Competitive systems and practices

Custom Content Section

Not applicable.

MSS405081A Develop a proactive maintenance strategy

Modification History

New unit, superseding MSACMT681A Develop a proactive maintenance strategy - Equivalent

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop and implement a proactive maintenance strategy for an organisation. The unit recognises that there are a number of predictive or proactive maintenance strategies, such as total productive maintenance (TPM) and reliability centred maintenance (RCM).

Application of the Unit

This unit applies to an individual responsible for developing a proactive maintenance strategy for an organisation. Typically the organisation will also be implementing other competitive systems and practices. The unit applies to the selection of appropriate strategies, initial development and implementation as well as application of the strategies to new areas and the improvement of operation in existing areas. This would typically be done in a team environment and in consultation with all key stakeholders.

This unit primarily requires the application of skills associated with communication in gathering, analysing and applying information and consulting with stakeholders. Teamwork, problem solving, initiative and enterprise, and planning and organising are required to develop and implement a predictive maintenance strategy. Strategies will incorporate the maintenance requirements of relevant technologies. This unit also requires aspects of self-management and learning to ensure feedback and new learning is integrated into maintenance strategies.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Determine appropriate analytical techniques	1.1	Liaise with key stakeholders to determine objectives of maintenance strategy
		1.2	Examine current maintenance situation to determine major areas requiring improvement
		1.3	Compare possible strategies, techniques and tools against organisation needs
		1.4	Select possible strategies, techniques and tools
		1.5	Confirm selected strategies, techniques and tools with key stakeholders
2	Develop reliability strategies	2.1	Select preferred maintenance strategy
		2.2	Examine and adapt strategy to organisation needs and priorities
		2.3	Examine and adapt techniques and tools required to implement strategy
		2.4	Liaise with key stakeholders to develop an implementation plan
		2.5	Identify key information and performance indicators required
3	Implement strategy	3.1	Identify data collection required
		3.2	Identify hardware and other resources required
		3.3	Identify skill needs required in consultation with key

- stakeholders
- 3.4 Ensure all resources/training are available
- 3.5 Implement strategy
- 4 Monitor implementation of strategy
 - 4.1 Compare information/performance indicators with desired levels
 - 4.2 Liaise with key stakeholders regarding strategy issues
 - 4.3 Identify areas requiring adjustment
 - 4.4 Make required adjustments

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others using a variety of media and techniques
- adapting personal communication strategy to different levels of literacy and numeracy in target individuals and groups
- working in a team
- analysing quantitative and qualitative information to determine proactive maintenance strategy options
- solving problems to root cause
- applying basic arithmetic and statistical techniques
- planning complex strategies, including consideration of timelines, resources, benefit/cost, implementation requirements, and monitoring and adjustment considerations
- reading and interpreting engineering specifications, drawings and charts
- using information system terminals and computers
- prioritising options, including reasons and recommendations
- recording data

Required knowledge

Required knowledge includes:

- characteristics and strengths of different types of strategies, techniques and tools, such as:
 - TPM
 - RCM
 - mean time between failure (MTBF)
 - failure mode effects analysis (FMEA)
 - condition monitoring
 - root cause analysis (RCA)
- holistic costs of different strategies combining cost of maintenance with costs of lost production, sales, and so on, as relevant to the organisation
- business goals sufficient to match the strategy to the business needs
- strategic thinking and its application to proactive maintenance
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • consider a variety of proactive maintenance strategies for suitability to an organisation • consult operators, maintenance, management and other stakeholders in decisions on proactive maintenance strategies • implement selected strategies • monitor performance to selected indicators and make improvements to selected proactive maintenance strategies.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning for appropriate portions

	<ul style="list-style-type: none"> • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Competitive systems and practices	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen)
--	--

	<ul style="list-style-type: none"> • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
OEE	<p>OEE is the combination of the main factors causing loss of productive capacity from equipment/plant and is:</p> $OEE = availability \times performance \times quality\ rate$ <p>where:</p> <ul style="list-style-type: none"> • availability takes into account losses due to breakdown, set-up and adjustments • performance takes into account losses due to minor stoppages, reduced speed and idling • quality rate takes into account losses due to rejects, reworks and start-up waste
MTBF	<p>MTBF is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is failing.</p> <p>There are many possible causes of any problem. Eliminating some will have no impact, others will ameliorate the problem. However, elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.</p> <p>Depending on the equipment, operations and procedures of the organisation, alternative statistical records of maintenance and maintenance-related events may be substituted for MTBF providing they relate strategies for</p>

	improving OEE.
FMEA	<p>FMEA is a systematic approach that identifies potential failure modes in a system, product, or operations/assembly operation caused by either design or operations/assembly process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring.</p> <p>Some industry sectors have highly adapted forms of FMEA and may practice traditional FMEA in say their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification.</p> <p>HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability.</p>
Condition monitoring	<p>Condition monitoring is used to describe the process of analysing the implications of condition monitoring data for proactive maintenance whether it be obtained from non destructive testing (NDT) reports, visual assessment by experts, diagnostic reports obtained from SCADA or other enterprise or equipment software and product or process quality analyses. It does not require the actual undertaking of the NDT or condition monitoring assessment or test. If this is required appropriate units from other Training Packages will be required.</p>

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405082A Adapt a proactive maintenance strategy to the process operations sector

Modification History

New unit, superseding MSACMT682A Adapt a proactive maintenance strategy to the process manufacturing sector* - Equivalent

* New prerequisite *MSS405081A Develop a proactive maintenance strategy* superseding MSACMT681A Develop a proactive maintenance strategy

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop and apply a proactive maintenance strategy for continuous manufacturing processes which may also be major hazard facilities or similar.

Application of the Unit

This unit applies to an individual in a continuous manufacturing sector, such as chemical, hydrocarbons and refining, smelting and cement, which is seeking to improve the efficiency and reliability of equipment. Typically such an organisation will also be engaged in implementing competitive systems and practices. As continuous manufacturers, such as the chemical, hydrocarbons and refining sectors, are often also major hazard facilities this will influence the proactive maintenance choices which need to be made.

The unit covers the selection of appropriate strategies, techniques and tools and the adapting of them to the organisations needs. It also covers the application of the strategies to new areas and the improvement of operation in existing areas. This would typically be done in a team environment and in consultation with all key stakeholders.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to adapt a proactive maintenance strategy to meet specific needs of the enterprise. This work is done in the context of using computer technology and also requires aspects of self-management and learning to ensure improvement of own performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MSS405081A Develop a proactive maintenance strategy

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Interpret proactive maintenance strategy	1.1	Analyse proactive maintenance strategy
		1.2	Identify areas which may conflict with hazard or operations requirements
		1.3	Analyse data arising from incident reports (and similar) for maintenance implications
		1.4	Compile hazard control implications for proactive maintenance strategy
2	Interpret hazard information	2.1	Analyse Hazard and Operability Studies (HAZOP) (or similar) data for maintenance implications
		2.2	Analyse safety case (or similar) data for maintenance implications
		2.3	Analyse data arising from incident reports (and similar) for maintenance implications
		2.4	Compile hazard control implications for proactive maintenance strategy

- | | | | |
|---|--|-----|--|
| 3 | Identify shutdown cycle requirements | 3.1 | Determine when the next shutdown is due and the expected time between shutdowns |
| | | 3.2 | Identify plant items/maintenance activities which can only be completed during a shutdown |
| | | 3.3 | Identify critical conditions which must not be breached in order to maintain plant reliability until shutdown |
| | | 3.4 | Compile shutdown cycle requirements for proactive maintenance strategy |
| | | | |
| 4 | Identify maintenance requirements of ancillary equipment | 4.1 | Identify proactive maintenance requirements of ancillary equipment |
| | | 4.2 | Identify maintenance which can only be done when the plant is shut down |
| | | 4.3 | Compile ancillary equipment requirements for proactive maintenance strategy |
| | | | |
| 5 | Adapt proactive maintenance strategy | 5.1 | Compare identified requirements to the proactive maintenance strategy |
| | | 5.2 | Negotiate a proactive maintenance strategy which meets these requirements |
| | | 5.3 | Involve team members in relating identified problems and opportunities for improvement to the maintenance strategy, and involve them in developing any required changes to ensure awareness, learning and commitment |
| | | 5.4 | Monitor the implementation of the strategy to ensure the identified requirements are met |
| | | 5.5 | Make required adjustments and arrange for strategy review |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- communicating with others using a variety of media and techniques
- adapting personal communication strategy to different levels of literacy and numeracy in target individuals and groups
- working in a team
- analysing quantitative and qualitative information to determine proactive maintenance strategy options
- applying a structured approach to integrating hazard management considerations to the development of a proactive maintenance strategy
- solving problems to root cause
- applying basic mathematical and statistical techniques
- planning complex strategies, including consideration of timelines, resources, benefit/cost, implementation requirements, and monitoring and adjustment considerations
- reading and interpreting engineering specifications, drawings and charts
- using information system terminals and computers
- prioritising options, including reasons and recommendations
- recording data

Required knowledge

Required knowledge includes:

- continuous manufacturing equipment and products of the organisation
- start-up, shutdown and isolation considerations for the organisation
- skills required by operators and maintenance personnel to achieve effective proactive maintenance strategy implementation
- characteristics and strengths of different types of strategies, techniques and tools, such as:
 - total preventative maintenance/total productive maintenance (TPM)
 - reliability centred maintenance (RCM)
 - mean time between failure (MTBF)
 - failure mode and effects analysis (FMEA)
 - condition monitoring
 - root cause analysis (RCA)
- holistic costs of different strategies combining cost of maintenance with costs of lost

- production, sales, and so on, as relevant to the organisation
- business goals sufficient to match the strategy to the business needs
 - strategic thinking and its application to proactive maintenance
 - principles of process equipment and how to improve its reliability
 - resources required and how to obtain them

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • analyse hazards and risks and determine implications for proactive maintenance strategies • consider a variety of proactive maintenance strategies for suitability to an organisation • consult operators, maintenance, management and other stakeholders in decisions on proactive maintenance strategies • monitor implementation of selected proactive maintenance strategies and make appropriate adjustments.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p> <p>Competence in this unit may be assessed by using a</p>

	<p>combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for assessment</p>	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems • statistical process control systems, including six
---	--

	<p>sigma and three sigma</p> <ul style="list-style-type: none"> • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
Safety case	<p>Safety case refers to:</p> <ul style="list-style-type: none"> • a formal requirement of major hazard facilities in order to procure an operating licence
Shutdown	<p>Shutdown refers to:</p> <ul style="list-style-type: none"> • the regulatory shutdown of the plant for safety inspections (this is also the only time major maintenance can be done)
Ancillary equipment	<p>Ancillary equipment includes other plant, such as:</p> <ul style="list-style-type: none"> • boilers • utilities • plants • waste treatment and hazard control equipment (e.g. fire ring mains, fire monitors, steam curtains, gas (or other loss of containment) monitors, blast protection and flare stacks)
TPM	<p>TPM includes:</p> <ul style="list-style-type: none"> • an application of total quality management to

	<p>maintenance with the intention of increasing reliability, getting it right first time and increasing OEE</p>
RCM	<p>RCM includes:</p> <ul style="list-style-type: none"> • moving maintenance from reactive, or even planned/programmed towards a focus on uptime and OEE
RCA	<p>RCA is a structured problem solving technique. Typically there are many possible causes of any problem. Eliminating some will have no impact, others will ameliorate the problem. However, elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.</p>
MTBF	<p>MTBF is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MTBF is reducing, then it is an indicator that the maintenance regime is failing.</p>
FMEA	<p>FMEA is a systematic approach that identifies potential failure modes in a system, product, or operations/assembly operation caused by either design or operations/assembly process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring. Some industry sectors have highly adapted forms of FMEA and may practice traditional FMEA in say their routine maintenance while using another technique, such as HAZOP, for design and modification.</p>
Uptime	<p>Uptime refers to:</p> <ul style="list-style-type: none"> • the overall availability of the plant (it is the inverse of downtime) or the unavailability of the plant. Ideal uptime is 100%
OEE	<p>OEE is the combination of the main factors causing loss of productive capacity from equipment/plant and is where:</p> $OEE = \text{availability} \times \text{performance} \times \text{quality rate}$ <ul style="list-style-type: none"> • availability takes into account losses due to breakdown, set-up and adjustments

	<ul style="list-style-type: none"> • performance takes into account losses due to minor stoppages, reduced speed and idling • quality rate takes into account t losses due to rejects, reworks and start-up waste
Condition monitoring	<p>Condition monitoring involves often quite sophisticated monitoring of equipment, including such things as:</p> <ul style="list-style-type: none"> • vibration monitoring • instrumental analysis of lubricating oil, and so on to determine the current state of the equipment, monitor the change in this condition and predict when it needs servicing/maintenance to maintain reliability
HAZOP	<p>HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability.</p>

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MSS405083A Adapt a proactive maintenance strategy for a seasonal or cyclical business

Modification History

New unit, superseding MSACMT683A Adapt a proactive maintenance strategy for a seasonal or cyclical manufacturing operation* - Equivalent

* New prerequisite *MSS405081A Develop a proactive maintenance strategy* superseding MSACMT681A Develop a proactive maintenance strategy

Unit Descriptor

This unit of competency covers the skills and knowledge required to develop a standard proactive maintenance strategy for a seasonal or cyclical operational processes or similar.

Application of the Unit

This unit applies to an individual responsible for developing a proactive maintenance strategy for an organisation that operates seasonal/cyclical plant and also adopts proactive maintenance strategies. The organisation will also usually be implementing other competitive systems and practices. Typical applications include many food processing enterprises, cotton ginning, sugar refineries, and so on. The unit covers changing the normal priority of some of the choices which need to be made in implementing a proactive maintenance strategy. The unit applies to the selection of appropriate strategies, initial development and implementation will need to be managed as well as application of the strategies to new areas and the improvement of operation in existing areas.

This would typically be done in a team environment and in consultation with all key stakeholders.

This unit requires the application of skills associated with problem solving, initiative, enterprise, planning and organising in order to adapt a proactive maintenance strategy to meet seasonal or cyclical needs of the enterprise. This work is done in the context of using computer technology and also requires aspects of self-management and learning to ensure improvement of own performance.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MSS405081A Develop a proactive maintenance strategy

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Interpret proactive maintenance strategy	1.1	Analyse proactive maintenance strategy
		1.2	Identify areas which may conflict with cyclical requirements
		1.3	Identify critical conditions which must be met in order to maintain plant reliability until season end
		1.4	Compile cycle requirements for proactive maintenance strategy
2	Identify cyclical requirements of the process	2.1	Establish when the season finishes and the expected cycle duration
		2.2	Identify plant items and maintenance activities which production imperatives dictate can only be completed after season end
		2.3	Identify critical conditions which must be met in order to maintain plant reliability until season end
		2.4	Compile cycle requirements for proactive maintenance strategy

- | | | | |
|---|--|-----|--|
| 3 | Identify maintenance requirements of ancillary equipment | 3.1 | Identify proactive maintenance requirements of ancillary equipment |
| | | 3.2 | Identify maintenance which can only be done at season end |
| | | 3.3 | Compile ancillary equipment requirements for proactive maintenance strategy |
| 4 | Identify maintenance requirements during season | 4.1 | Identify critical maintenance activities which must be done during season |
| | | 4.2 | Negotiate conflicts with seasonal or cyclical processing requirements |
| | | 4.3 | Compile proactive maintenance strategy requirements during season |
| 5 | Adapt proactive maintenance strategy | 5.1 | Compare identified requirements to the proactive maintenance strategy |
| | | 5.2 | Negotiate a proactive maintenance strategy which meets these requirements |
| | | 5.3 | Involve team members in relating identified problems and opportunities for improvement to the maintenance strategy, and involve them in developing any required changes to ensure awareness, learning and commitment |
| | | 5.4 | Monitor the implementation of the strategy to ensure the identified requirements are met |
| | | 5.5 | Make required adjustments and arrange review schedule |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- considering the impact of seasonal and cyclical production requirements on equipment availability requirements
- prioritising maintenance activities critical to production
- communicating with others using a variety of media and techniques
- adapting personal communication strategy to different levels of literacy and numeracy in target individuals and groups
- working in a team
- analysing quantitative and qualitative information to determine proactive maintenance strategy options
- solving problems to root cause
- applying basic arithmetic and statistical techniques
- planning complex strategies, including consideration of timelines, resources, benefit/cost, implementation requirements, and monitoring and adjustment considerations
- reading and interpreting engineering specifications, drawings and charts
- using information system terminals and computers
- prioritising options, including reasons and recommendations
- recording data

Required knowledge

Required knowledge includes:

- processing equipment and products of the organisation
- start-up, shutdown and isolation considerations for the organisation
- skills required by operators and maintenance personnel to achieve effective proactive maintenance strategy implementation
- characteristics and strengths of different types of strategies, techniques and tools, such as:
 - total productive maintenance (TPM)
 - reliability centred maintenance (RCM)
 - mean time between failure (MTBF)
 - failure mode effects analysis (FMEA)
 - condition monitoring
 - root cause analysis (RCA)

- holistic costs of different strategies combining cost of maintenance with costs of lost production, sales, and so on, as relevant to the organisation
- business goals sufficient to match the strategy to the business needs
- strategic thinking and its application to proactive maintenance
- principles of process equipment and how to improve its reliability
- resources required and how to obtain them

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> • analyse the equipment availability requirements of a seasonal or cyclical operation • consider a variety of proactive maintenance strategies for suitability to a seasonal or cyclical operation • consult operators, maintenance, management and other stakeholders in decisions on proactive maintenance strategies • monitor the implementation of selected proactive maintenance strategies and make required adjustments.
<p>Context of and specific resources for assessment</p>	<p>Assessment of performance must be undertaken in a workplace using or implementing one or more competitive systems and practices.</p> <p>Access may be required to:</p> <ul style="list-style-type: none"> • workplace procedures and plans relevant to work area • specifications and documentation relating to planned, currently being implemented, or implemented changes to work processes and procedures relevant to the assessee • documentation and information in relation to production, waste, overheads and hazard control/management • reports from supervisors/managers • case studies and scenarios to assess responses to contingencies.
<p>Method of assessment</p>	<p>A holistic approach should be taken to the assessment.</p>

	<p>Competence in this unit may be assessed by using a combination of the following to generate evidence:</p> <ul style="list-style-type: none"> • demonstration in the workplace • workplace projects • suitable simulation • case studies/scenarios (particularly for assessment of contingencies, improvement scenarios, and so on) • targeted questioning • reports from supervisors, peers and colleagues (third-party reports) • portfolio of evidence. <p>In all cases it is expected that practical assessment will be combined with targeted questioning to assess underpinning knowledge.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p>
<p>Guidance information for assessment</p>	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the candidate and the work being performed.</p>

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Competitive systems and practices</p>	<p>Competitive systems and practices may include, but are not limited to:</p> <ul style="list-style-type: none"> • lean operations • agile operations • preventative and predictive maintenance approaches • monitoring and data gathering systems, such as Systems Control and Data Acquisition (SCADA) software, Enterprise Resource Planning (ERP) systems, Materials Resource Planning (MRP) and proprietary systems
---	--

	<ul style="list-style-type: none"> • statistical process control systems, including six sigma and three sigma • Just in Time (JIT), kanban and other pull-related operations control systems • supply, value, and demand chain monitoring and analysis • 5S • continuous improvement (kaizen) • breakthrough improvement (kaizen blitz) • cause/effect diagrams • overall equipment effectiveness (OEE) • takt time • process mapping • problem solving • run charts • standard procedures • current reality tree <p>Competitive systems and practices should be interpreted so as to take into account:</p> <ul style="list-style-type: none"> • the stage of implementation of competitive systems and practices • the size of the enterprise • the work organisation, culture, regulatory environment and the industry sector
<p>Critical conditions</p>	<p>Critical conditions are those factors which must be undertaken or determined in order to maintain plant reliability during processing season. These may include:</p> <ul style="list-style-type: none"> • maximum load factors • lubrication schedules • correct operating temperatures • cleaning and waste removal schedules • equipment inspection and test schedules • development of standard operating procedures and training of operators
<p>Ancillary equipment</p>	<p>Ancillary equipment includes other plant, such as:</p> <ul style="list-style-type: none"> • boilers • utilities • plants • waste treatment and hazard control equipment (e.g. fire ring mains, fire monitors, steam curtains, gas (or other loss of containment) monitors, blast protection and flare stacks)

TPM	<p>TPM refers to:</p> <ul style="list-style-type: none"> • an application of total quality management to maintenance with the intention of increasing reliability, getting it right first time and increasing OEE
RCM	<p>RCM includes:</p> <ul style="list-style-type: none"> • moving maintenance from reactive, or even planned/programmed towards a focus on uptime and OEE
RCA	<p>RCA is a structured problem solving technique. Typically there are many possible causes of any problem. Eliminating some will have no impact, others will ameliorate the problem. However, elimination of the root cause will eliminate the problem. There should only be one root cause for any problem and so the analysis should continue until this one cause is found. Elimination of the root cause permanently eliminates the problem.</p>
MBTF	<p>MBTF is one key measure of the effectiveness of a maintenance procedure, and is an indicator as to whether root causes are being found and resolved. If MBTF is reducing, then it is an indicator that the maintenance regime is failing.</p>
FMEA	<p>FMEA is a systematic approach that identifies potential failure modes in a system, product, or operations/assembly operation caused by either design or operations/assembly process deficiencies. It also identifies critical or significant design or process characteristics that require special controls to prevent or detect failure modes. FMEA is a tool used to prevent problems from occurring. Some industry sectors have highly adapted forms of FMEA and may practice traditional FMEA in say their routine maintenance while using another technique, such as Hazard and Operability Studies (HAZOP) for design and modification.</p>
Uptime	<p>Uptime refers to:</p> <ul style="list-style-type: none"> • the overall availability of the plant (it is the inverse of downtime) or the unavailability of the plant. Ideal uptime is 100%
OEE	<p>OEE is the combination of the main factors causing loss of productive capacity from equipment/plant and is where:</p>

	<p><i>OEE = availability x performance x quality rate</i></p> <ul style="list-style-type: none"> • availability takes into account losses due to breakdown, set-up and adjustments • performance takes into account losses due to minor stoppages, reduced speed and idling • quality rate takes into account t losses due to rejects, reworks and start-up waste
Condition monitoring	<p>Condition monitoring involves often quite sophisticated monitoring of equipment, including such things as:</p> <ul style="list-style-type: none"> • vibration monitoring • instrumental analysis of lubricating oil, and so on, to determine the current state of the equipment, monitor the change in this condition and predict when it needs servicing/maintenance to maintain reliability
HAZOP	<p>HAZOP is a form of FMEA which has been practiced by the process industries for over 30 years and examines the implications of changes in process conditions to process stability.</p>

Unit Sector(s)

Unit sector

Competitive systems and practices

Custom Content Section

Not applicable.

MTMCOR202A Apply hygiene and sanitation practices

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to apply the personal hygiene and sanitation practices required of workers in a meat operation. It also covers cleaning equipment and immediate work areas during operations.
------------------------	--

Application of the Unit

Application of the unit	This unit is applicable to workers in abattoirs, boning rooms, smallgoods plants, wild game harvester operations, wild game depots, game processing plants, knackerries, food service premises, wholesale and retail meat establishments.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Clean own work area and equipment during operations	1.1. Worksite is hygienically cleaned during operations to <i>Occupational Health and Safety (OH&S), workplace and regulatory requirements</i> . 1.2. Equipment and surfaces are hygienically cleaned to regulatory and workplace requirements. 1.3. Cleanliness of work area is monitored according to workplace requirements.
2. Identify <i>sources of contamination</i> and spoilage	2.1. Contamination and cross-contamination risks are identified and <i>steps taken to reduce the risk</i> . 2.2. <i>Corrective action</i> is taken when contamination is identified in accordance with workplace and regulatory requirements.
3. Follow workplace <i>hygiene and sanitation requirements</i>	3.1. Personal hygiene practices are followed to workplace requirements. 3.2. Product is handled in accordance with workplace, and hygiene and sanitation requirements. 3.3. Individual's work is conducted hygienically in accordance with workplace requirements. 3.4. Products are processed in accordance with regulatory requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- consistently follow workplace, hygiene and sanitation procedures
- work effectively as an individual and as part of a team to keep work areas clean
- demonstrate basic hygiene and sanitation practices in all activities undertaken in the workplace
- take action to improve own work performance as a result of self-evaluation, feedback from others, or in response to changed work practices or technology
- use *communication* skills relevant to the task
- use and mix cleaning chemicals (if used) according to manufacturer specifications, regulatory and workplace requirements

REQUIRED SKILLS AND KNOWLEDGE**Required knowledge**

Knowledge of:

- hygiene and sanitation requirements for own area
- reporting procedures for contamination, as appropriate
- chemical contamination risks to product and how they are controlled
- consequences of contaminated or spoiled meat leaving the establishment
- consequences of failing to follow workplace requirements for hygienic handling and processing of meat
- time, temperature and moisture requirements for microbial growth
- causes of food spoilage and poisoning
- possible sources of contamination and cross-contamination in the worksite
- visual evidence of contamination
- microbes which may affect meat
- the scope and coverage of AS 4696:2007 Hygienic production and transportation of meat and meat products for human consumption
- sources of physical and microbiological contamination in meat establishments and how these hazards are controlled
- monitoring methods (e.g. visual, looks clean, smells clean and use of protein sticks)

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time. These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated over time during the normal operations of a meat establishment.

Context of and specific resources for assessment

Assessment must include a demonstration of on-the-job competency while performing a task in the workplace.

Method of assessment

Recommended methods of assessment are:

- quiz of underpinning knowledge
- workplace demonstration
- workplace referee or third-party report of performance over time.

Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.

EVIDENCE GUIDE**Guidance information for assessment**

A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole.

<i>OH&S requirements</i> may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise-specific procedures • OH&S requirements • Quality Assurance (QA) requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
<i>Regulatory requirements</i> may include:	<ul style="list-style-type: none"> • Export Control Act • Federal, state and territory regulations

RANGE STATEMENT	
	<p>regarding meat processing</p> <ul style="list-style-type: none"> • hygiene and sanitation requirements • relevant Australian Standards • relevant regulations • requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption • requirements set out in AS 4464:2007 Australian Standard for Hygienic Production of Wild Game Meat for Human Consumption.
<i>Sources of contamination</i> may include:	<ul style="list-style-type: none"> • chemical agents (e.g. insecticides and cleaning agents) • foreign bodies • microbiological and biological agents • physical agents (e.g. ingesta, excreta, dust and grease).
<i>Steps taken to reduce the risk</i> may include:	<ul style="list-style-type: none"> • good housekeeping practices • hand washing • maintaining clean clothes and PPE.
<i>Corrective action</i> may include:	<ul style="list-style-type: none"> • disposing of contaminated product • trimming product.
<i>Hygiene and sanitation requirements</i> may include:	<ul style="list-style-type: none"> • relevant government regulations • workplace requirements.
<i>Communication</i> may:	<ul style="list-style-type: none"> • be spoken, written, non-verbal and include signs and signals • be with people from a range of cultural, social and ethnic backgrounds or with colleagues, superiors, customers, clients and external parties.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMCOR404A Facilitate hygiene and sanitation performance

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to monitor the hygiene and sanitation performance of a plant.
------------------------	--

Application of the Unit

Application of the unit	This unit is applicable to supervisors or those with responsibilities overseeing hygiene and sanitation in meat processing establishments such as Quality Assurance (QA) officers and meat safety officers. It is applicable to meat processing, wholesaling, smallgoods and retailing operations.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
	MTMCOR202A	Apply hygiene and sanitation practices

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Interpret statutory and workplace requirements relating to hygiene and sanitation	<p>1.1. <i>Hygiene and sanitation, regulatory and workplace requirements</i> are explained to other workers to assist their workplace performance.</p> <p>1.2. Employer and employee rights, responsibilities and obligations are implemented in achieving hygiene and sanitation compliance.</p>
2. Monitor hygiene and sanitation performance	<p>2.1. Hygiene and sanitation are monitored to workplace and statutory requirements to verify compliance.</p> <p>2.2. Situations requiring action to improve hygiene and sanitation compliance are reported as part of the continuous improvement process.</p> <p>2.3. Results of process and product monitoring are evaluated for their impact on hygiene and sanitation.</p>
3. Respond to hygiene and sanitation problems	<p>3.1. Hygiene and sanitation issues are investigated according to established processes and procedures to achieve resolution of the problem under examination.</p> <p>3.2. Recommended action arising from the investigation is followed up and reported to ensure reinforcement and <i>documentation</i> of the outcomes.</p>
4. Evaluate results of microbiological testing	<p>4.1. Results of microbiological testing are analysed in terms of regulatory and workplace requirements.</p> <p>4.2. Corrective action is taken in response to microbiological results when required by workplace and regulatory requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
<p>Ability to:</p> <ul style="list-style-type: none"> define the problem to be investigated demonstrate understanding and application of HACCP systems identify and apply <i>Occupational Health&Safety (OH&S) requirements</i> plan approach to the investigation

REQUIRED SKILLS AND KNOWLEDGE

- evaluate the problem
- explain and monitor workplace hygiene and sanitation policies, practices and procedures
- **report** outcomes of the investigation
- follow up post-investigation issues
- identify action required to strengthen hygiene and sanitation compliance
- implement the monitoring procedures
- report monitoring outcomes
- use techniques for individual and team resolution of the problem
- use relevant **communication skills**

Required knowledge

Knowledge of:

- purpose of hygiene and sanitation monitoring
- regulatory and commercial implications of inadequate control of hygiene and sanitation
- company processes and procedures to conduct a hygiene and sanitation investigation
- employer and employee rights, responsibilities and obligations regarding hygiene and sanitation
- statutory requirements related to the site at which the person is employed

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.</p> <p>These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.</p> <p>Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.</p> <p>All assessment must be conducted against Australian meat industry standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency is demonstrated when taking an appropriate level of responsibility for the implementation of hygiene and sanitation SOPs.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment should involve analysis of real or simulated data for a meat processing operation.</p>
<p>Method of assessment</p>	<p>Recommended methods of assessment include:</p> <ul style="list-style-type: none"> • assignment • quiz of underpinning knowledge • simulation • verified work log or diary • workplace demonstration of competency for the assessor • workplace project • workplace referee or third party report of performance over time. <p>Assessment practices should take into account any</p>

EVIDENCE GUIDE	
	relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Hygiene and sanitation requirements</i> may include:</p>	<ul style="list-style-type: none"> • relevant government regulations • workplace requirements. <p>Statutory requirements may include relevant hygiene and sanitation, environmental and food safety legislation, and workplace policy, practices and procedures.</p> <p>Documentation may typically include status reports and technical manuals.</p>
<p><i>Regulatory requirements</i> may include:</p>	<ul style="list-style-type: none"> • Export Control Act • hygiene and sanitation requirements • relevant Australian Standards • relevant regulations • requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption • state and territory regulations regarding meat

RANGE STATEMENT	
	processing.
Workplace requirements may include:	<ul style="list-style-type: none"> • enterprise-specific procedures • OH&S requirements • Quality Assurance (QA) requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
Documentation may include:	<ul style="list-style-type: none"> • status reports • technical manuals.
OH&S requirements may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
Reporting will be:	<ul style="list-style-type: none"> • according to statutory and workplace requirements and may be in manual and/or electronic systems.
Communication skills may include:	<ul style="list-style-type: none"> • applying numeracy skills to workplace requirements • being appropriately assertive • empathising • establishing/using networks • interpreting the needs of internal/external customers • listening and understanding

RANGE STATEMENT	
	<ul style="list-style-type: none"> • negotiating responsively • persuading effectively • reading and interpreting workplace-related documentation • sharing information • speaking clearly and directly • working with diverse individuals and groups • writing to audience needs.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMP402B Implement a Meat Hygiene Assessment program

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit covers the skills and knowledge required to implement all aspects of a product and process monitoring system in a slaughter floor and/or boning room.</p> <p>Process and product monitoring systems are mandatory in all meat industry export works and staff undertaking monitoring duties must be trained in these systems.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit is applicable to regulatory, Quality Assurance (QA) and supervisory staff overseeing the implementation of a Meat Hygiene Assessment (MHA) program in a meat processing plant.</p>
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Monitor carcass product	1.1. Samples are selected for assessment according to the approved <i>sampling plan</i> . 1.2. Assessment is conducted utilising appropriate facilities, lighting and time. 1.3. Products are monitored for defects according to the agreed criteria and classification. 1.4. Carcasses are scanned using the approved scanning lines. 1.5. Defects are recorded accurately using the correct forms or electronic system. 1.6. Immediate corrective action is implemented according to the MHA program's requirements. 1.7. Carcasses are monitored according to <i>workplace requirements</i> for hygiene and sanitation, and Occupational Health and Safety (OH&S).
2. Monitor offal (where applicable to a plant's operations)	2.1. Samples are selected for assessment according to the approved sampling plan. 2.2. Assessment is conducted utilising appropriate facilities, lighting and time. 2.3. Offal is monitored for defects according to the agreed criteria and classification. 2.4. Defects are recorded accurately using the correct forms or electronic system. 2.5. Levels for triggering corrective actions are identified. 2.6. Immediate corrective action is implemented according to the MHA program's requirements. 2.7. Offal is monitored according to the workplace requirements for hygiene and sanitation, and OH&S.
3. Assess carton meat (where applicable to a plant's operations)	3.1. Samples are selected for assessment according to the approved sampling plan. 3.2. Assessment is conducted utilising appropriate facilities, lighting and time. 3.3. Carton meat is monitored for defects according to the agreed criteria and classification. 3.4. Defects are recorded accurately using the correct forms or electronic system. 3.5. Levels for triggering corrective actions are identified. 3.6. Immediate corrective action is implemented

ELEMENT	PERFORMANCE CRITERIA
	<p>according to the MHA program's requirements.</p> <p>3.7. Carton meat is monitored according to the workplace requirements for hygiene and sanitation, and OH&S.</p>
4. Monitor process	<p>4.1. Process is monitored according to the enterprise monitoring plan.</p> <p>4.2. Results are recorded accurately on the appropriate process monitoring sheets.</p> <p>4.3. Process is rated according to the <i>established criteria</i>.</p> <p>4.4. Immediate corrective action is implemented according to the MHA program's requirements.</p> <p>4.5. A conformity index is calculated and recorded after each process monitoring exercise.</p> <p>4.6. Process is monitored according to the workplace requirements for hygiene and sanitation, and OH&S.</p> <p>4.7. Results of process monitoring are tracked over time and reconciled with product monitoring outcomes.</p>
5. Analyse data gathered	<p>5.1. Product and process monitoring results are <i>plotted on simple trend charts</i>.</p> <p>5.2. Product and process monitoring results are <i>plotted on control charts</i>.</p> <p>5.3. Trends are interpreted and remedial or corrective actions are taken where necessary.</p>
6. Implement MHA program	6.1. Work instructions for monitoring activities are prepared and implemented.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.
Required skills
<p>Ability to:</p> <ul style="list-style-type: none"> • monitor product for defects according to the MHA program • identify and resolve data inconsistencies • monitor the process for conformity with the plant's HACCP-based QA system in accordance with the MHA program

REQUIRED SKILLS AND KNOWLEDGE

- observe hygiene and sanitation requirements when monitoring product and process
- graph and interpret trends in product and process monitoring results
- instigate corrective and preventative actions when appropriate
- apply relevant *communication* and *mathematical skills*
- comply with *OH&S requirements* when monitoring product and process
- maintain currency of knowledge and techniques through informal learning, regular professional development or personal research
- work efficiently as an individual and as a team member
- identify and apply relevant OH&S and *regulatory requirements*
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the applicable standards and regulations
- record the monitoring results accurately
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology

Required knowledge

Knowledge of:

- purpose of an MHA program
- classification of defects
- when and how corrective actions are to be taken in response to monitoring outcomes
- types and purpose of control charts
- purpose of trend charts
- what a trend is and why it is important when monitoring process and product
- how process compliance monitoring is to be undertaken
- how the approved sample plan is implemented for product monitoring
- purpose of the process conformity index
- types of defects to be identified in carcass, offal and carton product

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be undertaken against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated when implementing a real MHA program.

Context of and specific resources for assessment

Assessment must occur in an operating abattoir or boning room.

Method of assessment

Recommended methods of assessment include:

- assignment
- quiz of underpinning knowledge
- simulation
- workplace demonstration
- workplace project
- workplace referee report of performance over time.

Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and

EVIDENCE GUIDE	
	literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Sampling plan</i> will include:	<ul style="list-style-type: none"> • frequency • sample size
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • QA requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
<i>Established criteria</i> for rating the process include:	<ul style="list-style-type: none"> • acceptable • marginal • unacceptable.
<i>Plotting on simple trend charts</i> must include showing specified zones as:	<ul style="list-style-type: none"> • acceptable • marginal • unacceptable.
<i>Plotting on control charts</i> must show:	<ul style="list-style-type: none"> • specified acceptable, marginal and unacceptable zones • upper and lower critical limits.
<i>Communication skills</i> may include:	<ul style="list-style-type: none"> • communicating with people from a range of cultural, social and ethnic backgrounds • reading and interpreting workplace

RANGE STATEMENT	
	<p>documentation</p> <ul style="list-style-type: none"> • speaking clearly and directly • listening and understanding • the preparation of documentation for a specified audience • the use of negotiation and persuasion skills, and being appropriately assertive • the sharing of information.
<i>Mathematical skills</i> may include:	<ul style="list-style-type: none"> • identifying acceptable limits, tolerances, out-of-specification performance, trends • calculation • estimation • measurements and interpretation that relate to time, temperature, moisture humidity, ratios, percentages, weight/mass/volume.
<i>OH&S requirements</i> may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Regulatory requirements</i> may include:	<ul style="list-style-type: none"> • Export Control Act • Export Meat Orders (EMOs) • hygiene and sanitation requirements • relevant regulations and Australian Standards • requirements in the AS 4969:2007 Australian Standard for the Hygienic Production and

RANGE STATEMENT	
	Transportation of Meat and Meat Products for Human Consumption <ul style="list-style-type: none"> federal, state and territory regulations regarding meat processing.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMP404B Apply meat science

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit covers the skills and knowledge required to apply meat science to the eating quality of meat and to interpret scientific data to predict probable impacts on meat eating quality.</p> <p>It is a Meat Standards Australia (MSA) requirement that enterprises with a licence Level 1(b) have a MSA Coordinator who has completed this unit or a MSA approved equivalent unit.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>The skill and knowledge gained from this unit will enable a person to interpret meat processing data and to recommend improvements to management to control and enhance the eating quality of meat products.</p> <p>This unit is suitable for people working in the red meat industry in a Quality Assurance (QA) or management role.</p> <p>MSA requirements include adherence to the MSA Standards Manual for Grading, the MSA Standards Manual for Saleyard Consignment and the MSA Standards Manual for Trade Mark Usage.</p>
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Apply knowledge of muscle structure and biochemistry to meat quality and the factors that affect it	1.1. Biological mechanisms (both pre and post slaughter) that affect meat quality in beef are explained. 1.2. Pattern of tissue development in the body and the pattern of deposition within the muscle and fat depots within the body are identified including the composition of fat in depots and the extent it can be manipulated by production factors. 1.3. Structure of skeletal muscles in terms of the myofibre and connective tissue components and the effect that these structures have on eating quality is identified. 1.4. Biochemical events that occur in muscle early post-mortem and their significance in subsequent meat quality are identified.
2. Identify the <i>production and pre-slaughter factors that affect meat quality</i>	2.1. Impacts of production factors on meat quality are identified. 2.2. Pre-slaughter factors are explained.
3. Identify the <i>processing factors that impact on eating quality</i>	3.1. pH/temperature window and how it impacts on palatability is explained. 3.2. Role of electrical stimulation in controlling the rate of glycolysis in the carcass is described. 3.3. Impact of stretching the muscles pre-rigor on palatability is explained. 3.4. Process of ageing, its impact on tenderness and methods for extending the storage life of fresh meat including the application of packaging technologies is described. 3.5. Impact of cooking on the palatability of meat is described.
4. Describe quality attributes of meat	4.1. Factors that control the changes in colour in fresh meat are identified. 4.2. Development of marbling fat and its impact on palatability in the carcass is described. 4.3. Impact of drip on both the appearance and palatability of meat is explained.
5. Identify and evaluate the MSA cuts based grading scheme	5.1. Palatability Analysis Critical Control Points (PACCP) approach to meat grading is explained. 5.2. Principles behind the development of the MSA

ELEMENT	PERFORMANCE CRITERIA
	<p>carcase pathways system, including tasting protocols, are described.</p> <p>5.3. Impact of the various production, processing and value-adding inputs on the palatability of beef using the MSA model are established.</p> <p>5.4. Potential benefits of a cuts-based grading system to the various sectors of the industry are evaluated.</p> <p>5.5. Alternative grading schemes and their various grade attributes are analysed.</p>
6. Interpret and analyse data to predict probable impacts on meat eating quality	<p>6.1. Probable impacts of production and processing on meat quality are predicted.</p> <p>6.2. Potential solutions for eating quality problems are identified.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- apply relevant *communication skills*
- collate and analyse eating quality *data*
- maintain currency of knowledge through independent research or professional development
- identify and apply relevant *OH&S, regulatory* and *workplace requirements*
- identify and recommend improvements that could be made to improve meat eating quality to management
- take action to improve own work performance as a result of self-evaluation, feedback from others, or in response to changed work practices or technology

Required knowledge

Knowledge of:

- consumer taste testing protocols and how they have been used to set grade standards and develop the cuts-based grading system
- factors that control the changes in colour in fresh meat and other quality factors including drip and marbling which impact on both appearance and palatability
- factors that occur between the knocking box and chiller assessment and their

REQUIRED SKILLS AND KNOWLEDGE

- impact on meat palatability
- visual and palatability attributes of meat quality that are important to customers
- physical and chemical changes that occur in the cooking of meat
- anatomical and biochemical determinants of meat palatability
- factors in animal husbandry, transport, lairage, slaughter, carcass storage, packaging, further processing and cooking that will impact on tenderness and palatability
- *minimum standards of performance*

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated over time and under typical operating and production conditions for the enterprise.

Context of and specific resources for assessment

Competency must be assessed in the workplace or under simulated conditions. Assessment is to occur under standard and authorised work practices, safety requirements and regulatory requirements.

Method of assessment

Recommended methods of assessment are:

- evidence log book
- observation of the applicant working
- workplace referee or third party report of performance over time
- written tests and/or questioning.

Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and

EVIDENCE GUIDE	
	literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Production and pre-slaughter factors that affect meat quality</i> may include:</p>	<ul style="list-style-type: none"> • breed • growth path • glycogen depletion • high pH • Hormonal Growth Promotants (HGPs) • stress and stress reduction techniques.
<p><i>Processing factors that affect meat eating quality</i> may include:</p>	<ul style="list-style-type: none"> • ageing • anatomical factors • biochemical factors • cooking methods • electrical stimulation • fat distribution • grain feeding • growth rate or path • hanging method • hormonal growth promotants • marbling • packaging methods • Pale Soft Exudative (PSE) • pH • post mortem shortening • social regrouping of cattle

RANGE STATEMENT	
	<ul style="list-style-type: none"> • starvation • stress • temperature • time and temperature of cooking process • transport • tropical breed content.
<i>Communication skills</i> may include:	<ul style="list-style-type: none"> • applying numeracy skills to workplace requirements • being appropriately assertive • interpreting the needs of internal or external customers • listening and understanding • reading and interpreting workplace-related documentation • sharing information • speaking clearly and directly • working with diverse individuals and groups • writing to audience needs.
<i>Data</i> includes:	<ul style="list-style-type: none"> • ageing requirements • AUS-MEAT chiller assessment results, transport times • chiller cycles • lairage duration and conditions • MSA grading results • processing conditions, such as stimulation and other electrical inputs • time across the slaughter floor.
<i>OH&S</i> requirements may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coat and apron • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh apron • protective boot covers • protective hand and arm covering

RANGE STATEMENT	
	<ul style="list-style-type: none"> • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Regulatory</i> requirements may include:	<ul style="list-style-type: none"> • Export Control Act • relevant Australian Standards • relevant regulations • AS 4696:2007 Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption • state and territory regulations regarding meat processing.
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • QA requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
<i>Minimum standards of performance</i> include:	<ul style="list-style-type: none"> • ability to identify areas where changes in management could potentially improve eating quality • analysis of data to present management with possible solutions.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	
---------------------------	--

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMP2006B Apply animal welfare and handling requirements

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify animal welfare issues and comply with the necessary requirements when handling animals. The requirements include all workplace and regulatory requirements for humane handling.
------------------------	--

Application of the Unit

Application of the unit	This unit is applicable to all personnel responsible for handling livestock at a meat processing plant including those responsible for unloading stock, managing animals in lairage, moving stock and preparing them for slaughter.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and explain <i>animal handling practices</i>	1.1. Work instructions and work practices for the welfare and handling of animals are identified. 1.2. The impact on the quality of meat of stressing and/or injuring animals is identified. 1.3. Defects in meat quality resulting from poor handling techniques of live animals are identified.
2. Identify and explain animal welfare requirements	2.1. <i>Workplace</i> and <i>regulatory requirements</i> for handling animals humanely are identified and explained. 2.2. Relevant sections of the applicable Animal Welfare Standard and relevant legislation are identified and explained.
3. Identify and explain <i>Occupational Health and Safety (OH&S) requirements</i> for handling animals safely	3.1. Risks associated with handling animals are identified. 3.2. OH&S requirements associated with handling animals are identified.
4. Identify and explain stock flow and lot identification procedures	4.1. Individual animals are identified, where appropriate, according to workplace, OH&S and regulatory requirements. 4.2. The purpose and identification of lots is explained. 4.3. Lots are identified according to workplace requirements. 4.4. The consequences of incorrect lot identification are explained. 4.5. Importance of maintaining the flow of stock for production is explained.
5. Identify and explain requirements for dealing with sick and injured stock	5.1. Workplace and regulatory requirements are explained. 5.2. Emergency kill arrangements are described.
6. Apply animal welfare and handling techniques	6.1. Animals are handled in a way that complies with workplace requirements and minimises stress. 6.2. Animals are handled safely in accordance with workplace and OH&S requirements. 6.3. Sick and injured stock are handled in accordance with workplace requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify animals *suitable for slaughter*
- accurately complete *records* of *livestock movement*
- *communicate* effectively and appropriately with fellow workers (e.g. to exchange information with stockperson)
- comply with workplace procedures and requirements for handling livestock
- identify the relevant sections of the animal welfare standard and code
- identify relevant regulatory requirements

Required knowledge

Knowledge of:

- workplace procedures for receipt of animals
- workplace requirements for maintaining flow and order of animals
- impact of stress and injury on product quality, including hides and skins
- lot identification of stock and its importance with regard to trace back
- OH&S hazards of handling stock
- the relevant sections of the animal welfare standard and code
- relevant work instructions and Standard Operating Procedures (SOPs) associated with tasks undertaken

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated utilising the most current legislation and codes.

Context of, and specific resources for assessment

Assessment must involve some practical demonstration of competency in lairage situations.

Method of assessment

Recommended methods of assessment include:

- quiz of underpinning knowledge
- workplace demonstration
- workplace referee or third-party report of performance over time.

Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.

EVIDENCE GUIDE**Guidance information for assessment**

A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Animal handling practices may include the use of goads such as:

- audio
- electrical
- dogs
- mechanical.

Workplace requirements may include:

- enterprise-specific requirements
- hygiene and sanitation requirements
- OH&S requirements
- Quality Assurance requirements
- SOPs
- the ability to perform the task to production requirements
- work instructions.

Regulatory requirements may include:

- Export Control Act
- hygiene and sanitation requirements
- relevant regulations and Australian Standards
- requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption
- Animal Welfare Standards.

OH&S requirements may include:

- enterprise OH&S policies, procedures and programs
- OH&S legal requirements
- Personal Protective Equipment (PPE) which may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • personal protective equipment (PPE): <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Suitability of animals for slaughter</i> may require consideration of:	<ul style="list-style-type: none"> • health status • length of lairage period • product specification.
<i>Records of livestock movement</i> may include:	<ul style="list-style-type: none"> • receivable documents • reconciliations of livestock-on-hand • slaughter data.
<i>Communication</i> skills may include:	<ul style="list-style-type: none"> • listening and understanding • reading and interpreting workplace documentation • speaking clearly and directly • working with diverse individuals and groups.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMP2197C Clean after operations - boning room

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to clean and sanitise a boning room. It deals with the skills and knowledge required to operate, strip down and clean all the mechanical aids in the boning room (e.g. packing machinery, conveyors, elevators, scales, recording and labelling machines). It also involves the operation of high pressure cleaning equipment and the use of approved cleaning chemicals in the plant.
------------------------	---

Application of the Unit

Application of the unit	This unit is applicable to workers cleaning boning rooms after production has finished. The boning rooms may be attached to abattoirs or in smallgoods plants or part of food services, game processing or wholesaling operations.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Clean boning room	1.1. Boning room is cleaned in accordance with cleaning schedule and work instructions. 1.2. Cleaning procedures are undertaken to minimise condensation. 1.3. Cleaning chemicals are used in accordance with manufacturer's specifications and Occupational Health and Safety (<i>OH&S</i>) requirements . 1.4. Major areas of contamination are identified. 1.5. Cleaning procedures meet pre-operational hygiene requirements. 1.6. Surfaces are left free of excess moisture.
2. Clean boning room machinery	2.1. Machinery is isolated in accordance with workplace requirements . 2.2. Boning room packing machinery is cleaned in accordance with workplace requirements and manufacturer specifications. 2.3. Conveyers and elevators are isolated and cleaned. 2.4. Electronic scales, recording and labelling machines are cleaned in accordance with workplace requirements and manufacturer's specifications.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- clean boning room in accordance with workplace requirements
- clean boning room machinery in accordance with workplace requirements
- work effectively as an individual and as part of a team
- observe OH&S requirements for cleaning the boning room
- identify and apply relevant **regulatory requirements**
- take action to improve own work performance as a result of self-evaluation, feedback from others, or in response to changed work practices or technology
- use relevant **communication skills**

REQUIRED SKILLS AND KNOWLEDGE

- monitor program for boning room hygiene and sanitation including surface swabbing and pre-operational checks

Required knowledge

Knowledge of:

- importance of drying, and of avoiding condensation in boning rooms
- cleaning schedule for the boning room
- major sources and locations of contamination in the boning room
- specific cleaning programs and OH&S requirements for boning room machinery and conveyor systems

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.</p> <p>These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.</p> <p>Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.</p> <p>All assessment must be conducted against Australian meat industry standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency must be demonstrated during normal cleaning operations.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment must be conducted in a registered operating meat processing plant.</p>
<p>Method of assessment</p>	<p>Recommended methods of assessment include:</p> <ul style="list-style-type: none"> • assignments • debriefs • quiz of underpinning knowledge • simulation • workplace demonstration • workplace project • workplace referee or third-party report of performance over time. <p>Assessment practices should take into account any relevant language or cultural issues related to</p>

EVIDENCE GUIDE	
	Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>OH&S requirements</i> may include:</p>	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice • tenderisers.

RANGE STATEMENT	
Types of <i>machinery</i> may include:	<ul style="list-style-type: none"> • mincers • sausage makers
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • Quality Assurance (QA) requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
<i>Conveyers</i> include:	<ul style="list-style-type: none"> • roller and/or • conveyor systems.
<i>Regulatory requirements</i> may include:	<ul style="list-style-type: none"> • environmental protection standards, controls and protocols • Export Control Act • hygiene and sanitation requirements • relevant regulations • requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption'.
<i>Communication skills</i> may include:	<ul style="list-style-type: none"> • listening and understanding • reading and interpreting workplace documentation • sharing information • speaking clearly and directly • working with diverse individuals and groups.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMP2006A Apply animal welfare and handling requirements

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify animal welfare issues and comply with the necessary requirements when handling animals. The requirements include all workplace and regulatory requirements for humane handling.
------------------------	--

Application of the Unit

Application of the unit	This unit is applicable to all personnel responsible for handling livestock at a meat processing plant including those responsible for unloading stock, managing animals in lairage, moving stock and preparing them for slaughter.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify and explain <i>animal handling practices</i>	1.1. Work instructions and work practices for the welfare and handling of animals are identified. 1.2. The impact on the quality of meat of stressing and/or injuring animals is identified. 1.3. Defects in meat quality resulting from poor handling techniques of live animals are identified.
2. Identify and explain animal welfare requirements	2.1. <i>Workplace</i> and <i>regulatory requirements</i> for handling animals humanely are identified and explained. 2.2. Relevant sections of the applicable Animal Welfare Standard and relevant legislation are identified and explained.
3. Identify and explain <i>Occupational Health and Safety (OH&S) requirements</i> for handling animals safely	3.1. Risks associated with handling animals are identified. 3.2. OH&S requirements associated with handling animals are identified.
4. Identify and explain stock flow and lot identification procedures	4.1. Individual animals are identified, where appropriate, according to workplace, OH&S and regulatory requirements. 4.2. The purpose and identification of lots is explained. 4.3. Lots are identified according to workplace requirements. 4.4. The consequences of incorrect lot identification are explained. 4.5. Importance of maintaining the flow of stock for production is explained.
5. Identify and explain requirements for dealing with sick and injured stock	5.1. Workplace and regulatory requirements are explained. 5.2. Emergency kill arrangements are described.
6. Apply animal welfare and handling techniques	6.1. Animals are handled in a way that complies with workplace requirements and minimises stress. 6.2. Animals are handled safely in accordance with workplace and OH&S requirements. 6.3. Sick and injured stock are handled in accordance with workplace requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify animals *suitable for slaughter*
- accurately complete *records* of *livestock movement*
- *communicate* effectively and appropriately with fellow workers (e.g. to exchange information with stockperson)
- comply with workplace procedures and requirements for handling livestock
- identify the relevant sections of the animal welfare standard and code
- identify relevant regulatory requirements

Required knowledge

Knowledge of:

- workplace procedures for receipt of animals
- workplace requirements for maintaining flow and order of animals
- impact of stress and injury on product quality, including hides and skins
- lot identification of stock and its importance with regard to trace back
- OH&S hazards of handling stock
- the relevant sections of the animal welfare standard and code
- relevant work instructions and Standard Operating Procedures (SOPs) associated with tasks undertaken

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated utilising the most current legislation and codes.

Context of, and specific resources for assessment

Assessment must involve some practical demonstration of competency in lairage situations.

Method of assessment

Recommended methods of assessment include:

- quiz of underpinning knowledge
- workplace demonstration
- workplace referee or third-party report of performance over time.

Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.

EVIDENCE GUIDE**Guidance information for assessment**

A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Animal handling practices may include the use of goads such as:

- audio
- electrical
- dogs
- mechanical.

Workplace requirements may include:

- enterprise-specific requirements
- hygiene and sanitation requirements
- OH&S requirements
- Quality Assurance requirements
- SOPs
- the ability to perform the task to production requirements
- work instructions.

Regulatory requirements may include:

- Export Control Act
- hygiene and sanitation requirements
- relevant regulations and Australian Standards
- requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption
- Animal Welfare Standards.

OH&S requirements may include:

- enterprise OH&S policies, procedures and programs
- OH&S legal requirements
- Personal Protective Equipment (PPE) which may include:

RANGE STATEMENT	
	<ul style="list-style-type: none"> • personal protective equipment (PPE): <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Suitability of animals for slaughter</i> may require consideration of:	<ul style="list-style-type: none"> • health status • length of lairage period • product specification.
<i>Records of livestock movement</i> may include:	<ul style="list-style-type: none"> • receivable documents • reconciliations of livestock-on-hand • slaughter data.
<i>Communication</i> skills may include:	<ul style="list-style-type: none"> • listening and understanding • reading and interpreting workplace documentation • speaking clearly and directly • working with diverse individuals and groups.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMP2197B Clean after operations - boning room

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to clean and sanitise a boning room. It deals with the skills and knowledge required to operate, strip down and clean all the mechanical aids in the boning room (e.g. packing machinery, conveyors, elevators, scales, recording and labelling machines). It also involves the operation of high pressure cleaning equipment and the use of approved cleaning chemicals in the plant.
------------------------	---

Application of the Unit

Application of the unit	This unit is applicable to workers cleaning boning rooms after production has finished. The boning rooms may be attached to abattoirs or in smallgoods plants or part of food services, game processing or wholesaling operations.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Clean boning room	1.1. Boning room is cleaned in accordance with cleaning schedule and work instructions. 1.2. Cleaning procedures are undertaken to minimise condensation. 1.3. Cleaning chemicals are used in accordance with manufacturer's specifications and Occupational Health and Safety (<i>OH&S</i>) <i>requirements</i> . 1.4. Major areas of contamination are identified. 1.5. Cleaning procedures meet pre-operational hygiene requirements. 1.6. Surfaces are left free of excess moisture.
2. Clean boning room machinery	2.1. <i>Machinery</i> is isolated in accordance with <i>workplace requirements</i> . 2.2. Boning room packing machinery is cleaned in accordance with workplace requirements and manufacturer specifications. 2.3. <i>Conveyers</i> and elevators are isolated and cleaned. 2.4. Electronic scales, recording and labelling machines are cleaned in accordance with workplace requirements and manufacturer's specifications.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- clean boning room in accordance with workplace requirements
- clean boning room machinery in accordance with workplace requirements
- work effectively as an individual and as part of a team
- observe OH&S requirements for cleaning the boning room
- identify and apply relevant *regulatory requirements*
- take action to improve own work performance as a result of self-evaluation, feedback from others, or in response to changed work practices or technology
- use relevant *communication skills*

REQUIRED SKILLS AND KNOWLEDGE

- monitor program for boning room hygiene and sanitation including surface swabbing and pre-operational checks

Required knowledge

Knowledge of:

- importance of drying, and of avoiding condensation in boning rooms
- cleaning schedule for the boning room
- major sources and locations of contamination in the boning room
- specific cleaning programs and OH&S requirements for boning room machinery and conveyor systems

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated during normal cleaning operations.

Context of and specific resources for assessment

Assessment must be conducted in a registered operating meat processing plant.

Method of assessment

Recommended methods of assessment include:

- assignments
- debriefs
- quiz of underpinning knowledge
- simulation
- workplace demonstration
- workplace project
- workplace referee or third-party report of performance over time.

Assessment practices should take into account any relevant language or cultural issues related to

EVIDENCE GUIDE	
	Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>OH&S requirements</i> may include:</p>	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice • tenderisers.

RANGE STATEMENT	
Types of <i>machinery</i> may include:	<ul style="list-style-type: none"> • mincers • sausage makers
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • Quality Assurance (QA) requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
<i>Conveyers</i> include:	<ul style="list-style-type: none"> • roller and/or • conveyor systems.
<i>Regulatory requirements</i> may include:	<ul style="list-style-type: none"> • environmental protection standards, controls and protocols • Export Control Act • hygiene and sanitation requirements • relevant regulations • requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption'.
<i>Communication skills</i> may include:	<ul style="list-style-type: none"> • listening and understanding • reading and interpreting workplace documentation • sharing information • speaking clearly and directly • working with diverse individuals and groups.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMPS411C Monitor meat preservation process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to overview and monitor the hygienic preservation of meat and ensure compliance with quality standards and regulatory requirements.
------------------------	--

Application of the Unit

Application of the unit	This unit is applicable to meat safety officers (inspectors) and Quality Assurance (QA) managers responsible for overseeing meat preservation.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Overview the meat preservation process	<p>1.1. Types of <i>preservation</i> processes used by the meat industry are identified and explained.</p> <p>1.2. Meat quality required for preservation processes are identified according to customer and <i>workplace requirements</i>.</p> <p>1.3. Ingredients and <i>equipment</i> required for the preservation process are prepared according to product specifications, <i>hygiene and sanitation</i>, and safety requirements.</p>
2. Monitor preservation process	<p>2.1. Product and process are inspected and monitored to ensure meat is preserved to specifications, health, hygiene and customer requirements.</p> <p>2.2. Equipment or processes involved in the preservation process are monitored regularly at critical control points.</p> <p>2.3. Procedures to ensure quality and hygiene of the product are monitored and followed at all times.</p> <p>2.4. Procedures for rejection, reprocessing and/or recall for products which do not meet specifications or hygiene requirements are implemented.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- identify critical control points in the meat preservation process
- apply relevant *communication* and *mathematical skills*
- maintain currency of knowledge through professional development and self-directed research
- work effectively as an individual and as a team member
- determine and implement corrective action
- identify and apply relevant Occupational Health and Safety (*OH&S*) *requirements*
- interpret monitoring data and identify out-of-specification performance or product
- monitor the preservation of meat to ensure compliance with workplace and

REQUIRED SKILLS AND KNOWLEDGE*regulatory requirements*

- *record* monitoring information accurately
- *report* non-conformances to appropriate personnel
- take action to improve own work performance as a result of self-evaluation, feedback from others, or in response to changed work practices or technology

Required knowledge

Knowledge of:

- criteria for rejected, reprocessed or recalled product
- process involved in preserving meat in own workplace
- critical aspects of meat safety and hygiene in the preservation process
- relevant procedures to ensure the preserved meat product is safe and fit for human consumption
- reject and recall procedures
- impact of the preserving process on product quality, including eating quality
- regulatory requirements relating to the preservation of meat and products
- reject and recall procedures

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated while monitoring a commercial meat preservation operation.

Context of and specific resources for assessment

Assessment may involve a simulated monitoring role for the trainee.

Method of assessment

Recommended methods of assessment include:

- assignments
- quiz of underpinning knowledge
- simulation
- workplace demonstration
- workplace project
- workplace referee or third-party report of performance over time.

Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or

EVIDENCE GUIDE	
	language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Preservation</i> methods may include:	<ul style="list-style-type: none"> • canning • cooking • pickling • refrigeration • smoking.
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • QA requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
<i>Equipment</i> may include:	<ul style="list-style-type: none"> • canning lines • chillers • cooking facility • injectors • smoke generators • steamers.
<i>Hygiene and sanitation</i> requirements may include:	<ul style="list-style-type: none"> • relevant government regulations • workplace requirements.

RANGE STATEMENT	
<i>Communication</i> skills may include:	<ul style="list-style-type: none"> • communicating and working with diverse individuals and groups • interpreting customer requirements • listening and understanding • speaking clearly and directly • negotiation, persuasion and assertiveness where necessary • reading and interpreting workplace documentation • sharing information.
<i>Mathematical skills</i> may include:	<ul style="list-style-type: none"> • acceptable limits, tolerances, out-of-specification performance, trends • calculation • estimation • measurement and interpretation relating to time, temperature, moisture humidity, ratios, percentages, weight, mass and volume.
<i>OH&S requirements</i> may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Regulatory requirements</i> may include:	<ul style="list-style-type: none"> • domestic or importing country requirements • Export Control Act • hygiene and sanitation requirements • relevant state regulations and Australian

RANGE STATEMENT	
	<p>Standards</p> <ul style="list-style-type: none"> requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption.
<i>Reporting</i> and <i>recording</i> may:	<ul style="list-style-type: none"> be oral or written (with accurate transcription) be complex and contain information from a range of sources include graphs, tables, charts and diagrams include technical workplace and mathematical language and data.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMPS412C Monitor and overview the production of processed meats and smallgoods

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to understand and monitor the production processes of smallgoods
------------------------	---

Application of the Unit

Application of the unit	This unit is applicable to supervisors, Quality Assurance (QA) staff and regulatory officers overseeing the production of processed meat and smallgoods.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Overview the production of further processed meats and smallgoods</p>	<p>1.1. Range of further processed meat products and smallgoods is identified and explained.</p> <p>1.2. Processing techniques involved in the production of these <i>products</i> are identified and explained.</p> <p>1.3. <i>Hygiene and sanitation</i> and quality hazards associated with the production of these products are identified and explained.</p> <p>1.4. <i>Regulatory requirements</i> associated with the production of these products are identified and explained.</p>
<p>2. Monitor the preparation of processing <i>equipment</i> and areas</p>	<p>2.1. Procedures for pre-operational equipment checks conducted are identified in accordance with workplace policies and procedures, and manufacturer's instructions.</p> <p>2.2. Pre-operational checks and procedures carried out in accordance with workplace and regulatory requirements are monitored.</p>
<p>3. Monitor the production of smallgoods and further processed meat products</p>	<p>3.1. Ingredients are identified by type and quality according to <i>product specifications</i> and their function in the process is explained.</p> <p>3.2. Types of meat, by-product, stock, additive, binder and spices selected are identified according to the formulation specifications and regulatory requirements.</p> <p>3.3. Handling requirements for ingredients to prevent contamination and to ensure product quality and safety are demonstrated.</p> <p>3.4. Relevant processing equipment is identified and operating procedures are explained according to manufacturer and work specifications.</p> <p>3.5. Relevant temperature, consistency, appearance and texture requirements are described and monitored in accordance with product specifications and regulatory requirements.</p> <p>3.6. Relevant processing area hygiene and sanitation requirements are monitored as specified in workplace procedures and regulatory requirements.</p> <p>3.7. Procedures for rejection, reprocessing and/or recall for products which do not meet specifications or hygiene and sanitation requirements are identified and assessed against regulatory requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- monitor production of processed meats and smallgoods to ensure compliance with workplace and regulatory requirements
- apply relevant *communication* and *mathematical skills*
- work effectively as an individual and as a team member
- identify and apply relevant Occupational Health and Safety (*OH&S*), *workplace* and regulatory requirements
- propose and implement solutions to a range of production problems
- take action to improve own work performance as a result of self-evaluation, feedback from others, or in response to changed work practices or technology

Required knowledge

Knowledge of:

- hazards to the safe and hygienic manufacture of smallgoods
- *options for chilling product*
- process involved in manufacturing smallgoods
- procedures required to ensure the product is fit for human consumption and meets regulatory and quality requirements
- critical limits in the manufacture of smallgoods
- recall procedures, including notification of appropriate authorities

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated over time and under typical operating and production conditions for the enterprise.

Context of and specific resources for assessment

Competency must be demonstrated while monitoring a commercial smallgoods or processed meats operation.

Resources may include:

- smoking equipment, machinery or production facility
- product specifications and ingredients
- equipment meeting safety requirements

Method of assessment

Recommended methods of assessment include:

- assignments
- quiz of underpinning knowledge
- simulation
- workplace demonstration
- workplace project
- workplace referee or third-party report of performance over time.

EVIDENCE GUIDE	
	Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Product</i> may include:	<ul style="list-style-type: none"> • comminuted product • cooked and uncooked product • dried product • pickled or brined product • smoked product.
<i>Hygiene and sanitation</i> requirements may include:	<ul style="list-style-type: none"> • relevant government regulations • workplace requirements.
<i>Regulatory requirements</i> may include:	<ul style="list-style-type: none"> • Export Control Act • relevant Australian Standards • relevant regulations • requirements in AS 4696:2007 Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption • federal, state and territory regulations regarding meat processing.

RANGE STATEMENT	
<i>Equipment</i> may include:	<ul style="list-style-type: none"> • atomising generators • cookers • friction generators • liquid smoke jet • moulds • probe thermometers • sawdust or woodchip burning generators • smoke generators • smokers • sock • wet bulb reservoir.
<i>Product specifications</i> may:	<ul style="list-style-type: none"> • vary according to customer and workplace requirements.
<i>Communication</i> may include:	<ul style="list-style-type: none"> • communication with people from a range of cultural, social and ethnic backgrounds • interpreting customer requirements • listening and understanding • speaking clearly and directly • using negotiation, persuasion and assertiveness skills where applicable • reading and interpreting workplace documentation • sharing information • writing to audience needs.
<i>Mathematical skills</i> may include:	<ul style="list-style-type: none"> • collection • estimation • calculation and interpretation of deviations within cycle • internal temperature • humidity • ambient temperature • weights.
<i>OH&S</i> requirements may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection

RANGE STATEMENT	
	<ul style="list-style-type: none"> • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Workplace</i> requirements may include:	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • QA requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
<i>Options for chilling product</i> may include:	<ul style="list-style-type: none"> • chill cabinets • immersing in ambient running water • placing in coolrooms • showering with ambient water • use of intensive coolers • washing in water or brine.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Competency field

Competency field	
------------------	--

MTMPS414B Monitor and overview the production of Uncooked Comminuted Fermented Meat (UCFM)

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This unit covers the skills and knowledge required to understand and manage the production processes of Uncooked Comminuted Fermented Meat (UCFM).</p> <p>This unit relates to the Australia New Zealand Food Standards Code, Standard 3.2.2 Food Safety Practices and General Requirements, Clause 3 Food handling - skills and knowledge, which states:</p> <p>'A food business must ensure that persons undertaking or supervising food handling operations have:</p> <ul style="list-style-type: none">(a) skills in food safety and food hygiene matters; and(b) knowledge of food safety and food hygiene matters, commensurate with their work activities.' (Page 3)
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is applicable to personnel responsible for the outcomes of the production processes of UCFM in a smallgoods processing operation.</p>
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
	MTMCOR202A	Apply hygiene and sanitation practices
	MTMCOR404A	Facilitate hygiene and sanitation performance

Employability Skills Information

Employability skills	
	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify microbiological hazards for <i>UCFM products</i>	1.1. Types of <i>micro-organisms</i> are identified. 1.2. <i>Major threats</i> to UCFM products are identified. 1.3. Types of bacteria causing food poisoning and spoilage are identified. 1.4. Effects of bacterial contamination for food poisoning (i.e. impact on people) and food spoilage (i.e. shelf life) are identified. 1.5. Sources of bacterial contamination are identified. 1.6. Growth characteristics and requirements of bacteria are identified.
2. Identify chemical hazards for UCFM products	2.1. Chemical hazards which may affect UCFM products are identified. 2.2. <i>Common sources of chemical hazards/contamination</i> are identified. 2.3. Control methods which prevent chemical contamination locally and relevant national programs (e.g. residue testing) are explained. 2.4. Impact of chemical residues on meat (e.g. poisoning, tainting, rejections) is explained.
3. Identify physical hazards for UCFM products	3.1. Physical hazards which may affect meat are explained. 3.2. Common sources of physical hazards and/or contamination are identified. 3.3. Control methods to prevent contamination are explained. 3.4. Effects or impact of physical hazards on meat are explained.
4. Overview the production of UCFM products	4.1. Range of UCFM products is identified and explained. 4.2. Processing techniques involved in production of UCFM are identified and explained. 4.3. Hygiene and food safety hazards associated with the production of UCFM products are identified and explained. 4.4. <i>Regulatory requirements</i> associated with the production of UCFM products are identified and explained.
5. Monitor the preparation of	5.1. Procedures for pre-operational equipment checks are identified in accordance with workplace policies and

ELEMENT	PERFORMANCE CRITERIA
processing <i>equipment</i> and areas	<p>procedures, and manufacturer's instructions.</p> <p>5.2. Pre-operational checks and procedures carried out in accordance with workplace, food safety and regulatory requirements are monitored.</p>
6. Manage the production of UCFM and further processed products	<p>6.1. Ingredients are identified by type, quality and safety according to product specifications and their function in the process is explained (including starter culture).</p> <p>6.2. Types of meat, by-product, stock, additive, binder and spices selected are identified according to the formulation specifications and regulatory requirements.</p> <p>6.3. Handling requirements for ingredients (including starter culture) to prevent food safety hazards are demonstrated to ensure product quality and safety.</p> <p>6.4. Relevant processing equipment is identified and operating procedures are explained according to manufacturer and workplace specifications.</p> <p>6.5. Relevant time, temperature and humidity requirements for fermentation, maturation and monitoring are described in accordance with product specifications, regulatory requirements and industry guidelines.</p> <p>6.6. Relevant consistency, appearance, texture and monitoring requirements are described in accordance with product specifications and regulatory requirements.</p> <p>6.7. Procedures for rejection, reprocessing and/or recall for products which do not meet specifications or hygiene and sanitation requirements are identified and assessed against regulatory requirements and industry guidelines.</p> <p>6.8. Relevant processing area hygiene and sanitation requirements are identified and monitored as specified in workplace procedures and regulatory requirements.</p>
7. Overview the implementation of the Approved Hazard Analysis Critical Control Point (HACCP) plan for the production of UCFM products	<p>7.1. Critical Control Points (CCPs) and control points for prevention and control of bacterial contamination (e.g. process controls and systems) are identified.</p> <p>7.2. Control methods to prevent microbiological contamination are explained and implemented.</p> <p>7.3. Critical limits for CCPs are identified and monitoring processes are implemented.</p> <p>7.4. Validation requirements for critical limits of</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>HACCP programs are described.</p> <p>7.5. Documented procedures are implemented which ensure any CCPs which are out of control are brought back into control and affected product is suitably handled.</p> <p>7.6. Documented procedures are implemented to ensure the whole HACCP system is regularly audited and verified as working effectively.</p> <p>7.7. All documents and <i>records</i> required for the system are kept available, up-to-date and in use.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- apply relevant *communication* and *mathematical skills*
- maintain currency of knowledge and techniques through informal learning, regular professional development and personal research such as by using the web, industry journals, circulars from regulators and industry workshops
- work effectively as an individual and as a team member
- demonstrate initiative and creativity in proposing solutions and contributing to the development of appropriate actions to resolve problems
- identify and apply relevant Occupational Health and Safety (*OH&S*) and *workplace requirements*
- monitor production of UCFM to ensure compliance with workplace and regulatory requirements
- provide relevant information to work colleagues to facilitate understanding of, and compliance with the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data

Required knowledge

Knowledge of:

REQUIRED SKILLS AND KNOWLEDGE

- process involved in manufacturing UCFM
- purpose of fermentation
- raw materials storage and selection
- fermentation control criteria for pH
- fermentation speed control
- purpose of maturation and drying
- maturation and drying speed control
- impact of the raw material on product quality and food safety
- water activity as a release criteria
- microbiological criteria in UCFM production and microbiological limits of UCFM, particularly the following significant microbial pathogens: enterohaemorrhagic Escherichia coli, Salmonella, enterotoxin of Staphylococcus aureus and Listeria monocytogenes
- physical hazards for UCFM products
- role of starter culture
- storage and handling requirements for starter culture
- product handling and release criteria
- impact of critical limits in a HACCP program for UCFM production
- procedures required to ensure the product is fit for human consumption and meets regulatory, food safety and quality requirements
- implementation of the HACCP plan for the production of UCFM products

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated through sustained performance over time, with an appropriate level of responsibility and authority under typical operating and production conditions for the enterprise.

Context of and specific resources for assessment

Resources may include

- relevant documentation such as:
 - manufacturer's instructions and operation manuals
 - regulatory requirements
 - workplace policy and procedures
- workplace environment.

Method of assessment

Recommended methods of assessment include:

- assignment focusing on understanding and application of principles and theory to workplace operations
- third-party referee report of sustained performance at appropriate level of authority and responsibility
- workplace project with a focus on enterprise

EVIDENCE GUIDE	
	<p>environment and conditions.</p> <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>
Guidance information for assessment	<p>A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>UCFM products</i> may include	<ul style="list-style-type: none"> • caccitora • chorizo • csabai • landjaeger • Lebanon Bologne • mettwurst • polnische • salami • some cabanossi • summer sausage • Teewurst, and others.
<i>Micro-organisms</i> may include:	<ul style="list-style-type: none"> • bacteria • mould • virus • yeast.

RANGE STATEMENT	
Major threats may include:	<ul style="list-style-type: none"> • bacteria • relevant yeast or moulds.
Common sources of chemical hazards/contamination may include:	<ul style="list-style-type: none"> • agricultural residue • cleaning • veterinarian chemical residues.
Regulatory requirements may include:	<ul style="list-style-type: none"> • Export Control Act • Export Meat Orders (EMOs) • hygiene and sanitation requirements • importing country requirements where appropriate • relevant domestic requirements • relevant regulations and Australian Standards • AS 4696:2007 Australian Standard for the hygienic production and transportation of meat and meat products for human consumption • federal, state and territory regulations regarding meat processing.
Equipment may include:	<ul style="list-style-type: none"> • blenders • choppers • cooking utensils • dryers • fermentation environment • injectors • knives • machine or vat • mixers • pressure cookers • sausage machine • silent or bowl cutter • smokehouse • tables, conveyors, platforms • tumblers.
Ingredients may include:	<ul style="list-style-type: none"> • additives • binders • by-products and other relevant materials • fats • meats • Nitrate • Nitrite

RANGE STATEMENT	
	<ul style="list-style-type: none"> • spices • starter cultures • water.
Recording and monitoring systems may be:	<ul style="list-style-type: none"> • electronic • manual.
Communication skills may include:	<ul style="list-style-type: none"> • communicating with people from a range of cultural, social and ethnic backgrounds • preparing oral or written reports which include information from a range of sources • reading and interpreting workplace documentation, such as audit reports, monitoring data, specifications and status reports • speaking clearly and directly • listening and understanding • preparing documentation for a specified audience • using negotiation and persuasion skills, and being appropriately assertive • using technical workplace and mathematical language and data • sharing of information.
Mathematical skills may include:	<ul style="list-style-type: none"> • identifying acceptable limits, tolerances, out-of-specification performance, trends • collection, estimation, calculation and interpretation of deviations within cycle, internal temperature, humidity, ambient temperature, weights • measurement and interpretation in relation to time, temperature, moisture humidity, ratios, percentages, weight, mass, volume.
OH&S requirements may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance

RANGE STATEMENT	
	<ul style="list-style-type: none"> • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<p><i>Workplace requirements</i> may include:</p>	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements • Quality Assurance (QA) requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Competency field

Competency field	
------------------	--

MTMPS5603C Develop, manage and maintain quality systems

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to establish, maintain and control an enterprise quality system. It also covers the skills and knowledge needed to lead people, manage systems and build quality into all enterprise systems and operations. The development and management of quality systems affects the ability of the enterprise to operate in specific markets and influences customer and consumer confidence in enterprise products.
------------------------	--

Application of the Unit

Application of the unit	This unit is of particular interest to Quality Assurance (QA) managers and personnel, production managers and supervisors operating in a meat industry context. At this level individuals exercise considerable responsibility and accountability within enterprise structures and are required to make primary contributions to the values, goals and operations of the enterprise. They will typically have responsibility for the establishment and review of systems for the site or department. They may work with the assistance of external experts to develop plans and strategies.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish <i>requirements of the quality system</i>	1.1. Policies expressing the organisation's commitment to the quality system and processes are developed. 1.2. Legislative requirements for enterprise quality systems are identified. 1.3. Scope and objectives of the quality system are determined, including links with all enterprise operations, customers, suppliers and contractors. 1.4. Quality performance standards, including customer and supplier service standards, are established consistent with the direction and goals of the enterprise. 1.5. Resource requirements are identified and included in financial, human resource and operational plans.
2. Design and prepare for the quality system	2.1. <i>Quality systems</i> are selected and designed to meet enterprise, customer and regulatory requirements. 2.2. Quality principles underpin all enterprise operations to achieve business goals and performance standards. 2.3. Responsibilities for development, implementation and operation of the system are clearly defined and communicated. 2.4. Personnel from all levels and areas of the organisation are involved in the development and implementation of the quality system. 2.5. <i>System components, procedures</i> and supporting <i>documentation</i> are developed and validated. 2.6. Consultative and communication strategies are developed to link the quality system with all aspects of enterprise operations. 2.7. Supplier or contractor service standards and <i>audit</i> requirements are determined and negotiated. 2.8. <i>Performance measures</i> and indicators are developed to measure performance against policies, goals and performance standards.
3. Implement and <i>monitor</i> the quality system	3.1. Implementation plan is prepared and resourced. 3.2. Training plans to provide personnel at all levels with quality concepts and skills are prepared and resourced. 3.3. Quality system requirements and customer focus are addressed in the establishment, operation and

ELEMENT	PERFORMANCE CRITERIA
	<p>evaluation of all enterprise systems.</p> <p>3.4. Control and preventative action measures are identified and validated.</p> <p>3.5. Corrective action procedures are developed and monitored.</p> <p>3.6. Procedures for reporting, recording and responding to non-conformances and non-compliances are established.</p> <p>3.7. Customer and supplier service standards are monitored and documented.</p> <p>3.8. Quality data is collected and analysed, and implications reported.</p> <p>3.9. Quality costs and performance are monitored.</p> <p>3.10. Quality system is prepared for external review and approval by relevant authorities.</p>
4. Continuously improve the quality system	<p>4.1. Impacts of the quality system on enterprise operations are monitored and reviewed.</p> <p>4.2. Responses to customer complaints and requests are resolved and used to improve the system.</p> <p>4.3. Procedures for the ongoing identification and resolution of issues are established.</p> <p>4.4. Quality system is updated for changes in process, technical information, customer and regulatory requirements.</p> <p>4.5. <i>Stakeholders</i> are included in decision making and continuous improvement processes and strategies.</p> <p>4.6. Quality results, findings and conclusions are fed into improvement processes.</p> <p>4.7. Costs and benefits of the quality system are analysed.</p> <p>4.8. Quality goals and targets are continuously reviewed.</p>
5. <i>Communicate quality outcomes</i>	<p>5.1. <i>Certification</i> of product and processes consistent with quality outcomes is completed according to customer and regulatory requirements.</p> <p>5.2. Regulatory authorities and agencies are promptly notified of breaches and non-compliance incidents.</p> <p>5.3. Quality outcomes are used to promote public confidence in enterprise products and services.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- analyse complex *statistical data* and prepare corrective responses to non-conformances and variations identified in the data, relevant to enterprise quality systems and operations
- apply *quality* concepts and *tools* to problem solving and the development of quality data collection, *data management systems* and analysis strategies
- apply substantial product and process knowledge to the development of the quality system and the *interpretation* of quality data
- apply relevant *communication* and *mathematical skills*
- communicate quality goals, requirements and findings to stakeholders in formats and styles appropriate to the context and purpose
- develop quality policies for the enterprise in consultation with senior management and other stakeholders
- develop consultative and feedback procedures and opportunities for identification and resolution of quality issues and problems
- develop continuous improvement processes and team building using the 'plan, do, check, act cycle'
- consult, negotiate with and report to regulatory authorities openly and promptly, consistent with enterprise ethical standards, including the notification of breaches and the preparation of non-compliance reports
- develop workforce commitment, capability and responsibility for the quality system, including identifying, negotiating and scheduling training, inclusion of responsibilities and duties relating to quality system implementation and integration in all job descriptions and work instructions, clear communication of responsibilities and requirements, delegation of tasks and responsibilities and inclusion of the workforce in consultative and continuous improvement processes
- ensure the quality system meets legislative and *regulatory requirements*
- exercise judgement, pragmatism and quality knowledge in the management and resolution of quality issues and problems
- identify and apply relevant *Occupational Health and Safety (OH&S)* and *workplace requirements*
- identify appropriate *monitoring systems* and strategies to support the enterprise quality system
- identify, research and update sources of quality information and advice, including technical and regulatory information to support enterprise quality system
- lead personnel (e.g. Hazard Analysis Critical Control Point (HACCP) team, management, quality team, meat inspection team, laboratory, maintenance teams, processors and operators) in the implementation and improvement of the quality

REQUIRED SKILLS AND KNOWLEDGE

system

- monitor and analyse the *costs* of the quality system, including prevention costs, appraisal costs, total quality costs and failure costs
- monitor and certify processes and product to meet *third -party* requirements (e.g. importing country, public health requirements and customers)
- oversee *audit processes* (internal and external), act on audit findings and provide feedback to personnel for improvement of the system
- oversee the preparation for third party certification (where appropriate)
- plan and resource the enterprise training strategy, consistent with regulatory requirements, to assist personnel at all levels in the implementation of the quality system
- prepare and sign off quality policies, manuals and documentation for the enterprise, including the preparation and updating of preventative, corrective and responsive procedures and strategies, supplier criteria and specifications, supplier and contractor audit requirements
- prepare quality implementation plans, identifying goals, key personnel and areas, resources, strategies, timelines and milestones
- present reports according to legal and enterprise requirements
- resolve customer complaints promptly and provide corrective action responses
- use appropriate questioning, observation, listening and recording skills in the collection and monitoring of quality data
- where quality systems are based on HACCP principles or Good Manufacturing Practice (GMP), explain these principles and the implications for the enterprise quality system.

Required knowledge

Knowledge of:

- key concepts, philosophies and tools of quality management
- management and organisational structure of the enterprise and its impact on enterprise systems
- the role audits play in a quality system
- documentation requirements of the quality system, including levels, and their roles in the functioning of the system, including the requirement for effective and secure quality record keeping systems
- enterprise goals and directions and their implications for the quality system
- *process capability*
- applicable quality standards, regulations, codes, legislation and customer requirements for the quality system and explain the implications for the enterprise
- legal requirements for the establishment and maintenance of the enterprise QA system including responsibilities for reporting breaches to authorities and implementing audit findings
- principles and functions of hazard analysis and control, validation, including

REQUIRED SKILLS AND KNOWLEDGE

auditing, and verification in quality systems.
--

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.</p> <p>These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.</p> <p>Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.</p> <p>All assessment must be conducted against Australian meat industry standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency must be demonstrated through sustained performance over time, at an appropriate level of responsibility and authority under typical operating and production conditions for the enterprise.</p>
<p>Context of and specific resources for assessment</p>	<p>Resources may include:</p> <ul style="list-style-type: none"> • a real work environment • customer specifications • establishment's quality system, performance data • relevant documentation, such as: <ul style="list-style-type: none"> • manufacturer instructions or operations manuals • manufacturer requirements • regulatory requirements • workplace policy and procedures • relevant equipment and materials.
<p>Method of assessment</p>	<p>Recommended methods of assessment include:</p> <ul style="list-style-type: none"> • third party referee report of sustained performance at an appropriate level of authority and responsibility

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • assignment focusing on understanding and application of principles and theory to workplace operations • workplace projects which focus on the company environment and conditions. <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>
Guidance information for assessment	A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Requirements of the quality system</i> may include:</p>	<ul style="list-style-type: none"> • control of documents, data and quality records • coverage of contracts, purchasing, supply, processing, handling, storage, packaging, preservation, storage and delivery of meat and meat products • definition of management responsibilities • design and process controls • inspecting and testing, control of non-conforming product, preventative and corrective action, and auditing • management of links and impacts on all systems within the enterprise • production identification and traceability

RANGE STATEMENT	
	<ul style="list-style-type: none"> • training.
<i>Quality systems</i> may include:	<ul style="list-style-type: none"> • Australian, and Australian and New Zealand standards • food and meat safety • industry specific standards • international standards (e.g. ISO 9000 series) • Meat Safety Enhancement Program (MSEP) • Meat Safety Quality Assurance (MSQA) • Personal Qualities Assessment (PQA) • trade description and certification systems.
<i>Systems components and procedures</i> include:	<ul style="list-style-type: none"> • correction (e.g. disposition, corrective action, liability management and customer complaint resolution) • prevention (e.g. training, operator feedback, manuals, technology and equipment reliability and maintenance, statistical collection and information, supplier QA, Standard Operating Procedures (SOPs) and work instructions).
Where the quality system relates to food safety, relevant <i>documentation</i> may include:	<ul style="list-style-type: none"> • amendment registers • Critical Control Points (CCP) monitoring forms and additional monitoring requirements and supporting programs • critical control point work instructions • HACCP audit table • HACCP team register, product description and use • process flow charts, factory floor plan and hazard analysis table • schedules relating to hygiene, cleaning and sanitation procedures, work instructions, approved chemicals, calibration, pest control, training, and product identification and recall.
<i>Audits</i> of performance may include:	<ul style="list-style-type: none"> • compliance with regulatory requirements • external reviewers • human resource performance • QA, including meat and food safety • safety, energy and environment.
<i>Performance measures</i> for the total quality cost may include:	<ul style="list-style-type: none"> • quality cost per kg of product • quality cost per dollar of direct production costs.
<i>Monitoring</i> and analysis may be:	<ul style="list-style-type: none"> • periodic (e.g. hourly, daily and weekly)

RANGE STATEMENT	
	<ul style="list-style-type: none"> • in real time (electronically).
<i>Stakeholders</i> may include:	<ul style="list-style-type: none"> • company owners, directors, shareholders and financiers • competitors • management and employees • suppliers, customers and consumers • unions and employer associations.
Systems for the <i>communication of quality outcomes</i> may include:	<ul style="list-style-type: none"> • development of quality teams • newsletters, bulletins and awards • problem-solving teams and sessions • quality meetings or circles • training.
<i>Certification</i> may include:	<ul style="list-style-type: none"> • AUS-MEAT certification • importing country requirements • Meat Standards Australia (MSA) certification • State, territory or public health requirements.
<i>Statistical data</i> analysis may include:	<ul style="list-style-type: none"> • correlation and regression analysis, bi-variate and multi-variate analysis • distribution • estimating and hypothesis testing • management • probability and statistical inference • process stability, capability and management • reliability planning • sampling • statistical process control requirements and charting applications • variations and variation monitoring.
<i>Quality tools</i> may include:	<ul style="list-style-type: none"> • cause and effect and fish bone diagrams • control charts • data points • flow charts • histograms • prioritisation matrices • process improvement models • process capability • pareto charts • team structures.
<i>Data management systems</i> may be manual or computerised, cover	<ul style="list-style-type: none"> • bar coding, identification, tagging and traceback systems

RANGE STATEMENT	
data collection, data monitoring and data analysis and interpretation, and may include:	<ul style="list-style-type: none"> • calculators • charting and graphing materials • computer software packages (e.g. spreadsheets and statistical analysis packages) • computerised equipment • manual measuring equipment (e.g. thermometers, pressure gauges and scales) • monitoring sheets and records.
Data analysis and <i>interpretation</i> may include:	<ul style="list-style-type: none"> • Acceptable Quality Level (AQLs) • Chemical Lean (CL) levels • microbiological analysis (e.g. Total Viable Counts (TVC) and e-coli counts) • process capability analysis • process variation analysis • product monitoring • statistical process control • temperature (e.g. cooling and chilling rates).
<i>Communication</i> may:	<ul style="list-style-type: none"> • be with culturally, ethnically and socially diverse individuals and groups • involve information and communications technology (e.g. databases, internet search and e-commerce services) • occur in a variety of sensitive, conflictive, collaborative and supportive environments • be formal or informal and involve face to face, technological and electronic methods • require analysis and presentation of complex concepts, technical information, mathematical information and other data in simple or complex formats • require preparation of reports which may be complex, contain information from a range of technical sources and include mathematical and graphic information and data.
<i>Mathematical skills</i> may relate to:	<ul style="list-style-type: none"> • complex actual and hypothetical technical and financial modelling • calculations and interpretation and analysis • mathematical information, such as: <ul style="list-style-type: none"> • product and product quality • financial operations • personnel

RANGE STATEMENT	
	<ul style="list-style-type: none"> • operations • sales and turnover • exports.
<i>Regulatory requirements</i> may include:	<ul style="list-style-type: none"> • animal welfare • commercial law, including fair trading and trade practices • consumer law • corporate law, including registration, licensing and financial reporting • environmental and waste management • Equal Employment Opportunity (EEO), anti-discrimination and sexual harassment • Export Control Act • hygiene and sanitation requirements • industrial awards and agreements • relevant regulations • state and territory regulations regarding meat processing • taxation.
<i>OHS requirements</i> may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE): <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise-specific requirements • OH&S requirements

RANGE STATEMENT	
	<ul style="list-style-type: none"> • QA requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements • work instructions.
<i>Monitoring systems</i> and strategies may include:	<ul style="list-style-type: none"> • audits and reviews • feedback from stakeholders • inspection and testing procedures and regimes, including chemical and microbiological testing procedures, for validation and verification • statistical collection and analysis.
Quality <i>costs</i> include:	<ul style="list-style-type: none"> • appraisal (e.g. design appraisal, inspection, depreciation of quality equipment, process control and end product testing) • failure (e.g. scrap and waste, reinspection or retesting, disposal, down time, product downgrading, product liability, loss of custom, returned product and complaints) • prevention (e.g. training, auditing, process control engineering, testing, reporting and recall systems).
<i>Third-party</i> certification may include:	<ul style="list-style-type: none"> • Australian Quarantine Inspection Service (AQIS) accountabilities and inspection stamps/seals • customer requirements and specifications, including importing country requirements • licensing or registration requirements • national or international quality endorsement • product description and certification.
<i>Audit processes</i> include:	<ul style="list-style-type: none"> • planning • establishing controls • developing the team • conducting entry/exit meetings • controlling caucus meetings • issuing corrective action requests • preparing reports • giving feedback and input into the improvement of the system.
<i>Process capability</i> includes:	<ul style="list-style-type: none"> • operational capability (e.g. resources, risks, opportunities and commitments) • technical capability (e.g. personnel,

RANGE STATEMENT	
	equipment, systems and suppliers).

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMPSR201C Vacuum pack product

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to pack meat product using vacuum packaging.
------------------------	---

Application of the Unit

Application of the unit	This unit is applicable to workers packing meat and meat products in boning rooms, offal rooms, smallgoods plants, wholesalers and food services operations. It is not applicable to small scale vacuum packing in retail operations.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Select packaging	1.1. Product is bagged in appropriately sized bag. 1.2. Product is arranged in appropriate container.
2. Set machine requirements	2.1. Requirements in preparation for start-up of vacuum packing machine are completed to workplace requirements . 2.2. Machine requirements are set correctly. 2.3. Start-up procedures are followed to workplace requirements. 2.4. Packing materials are attached and changed to workplace requirements and product specification. 2.5. Bagged meat is placed on the vacuum packing machine or in the formed pockets as appropriate. 2.6. Open ends of bags are placed flat across the sealing bar or meat contained in pockets as appropriate. 2.7. Occupational Health and Safety (OH&S), hygiene and sanitation requirements are followed.
3. Operate machinery	3.1. Vacuum packaging machine is operated correctly in accordance with workplace requirements. 3.2. A variety of products is vacuum packed to customer specifications, hygiene and sanitation, OH&S and Quality Assurance (QA) requirements at a speed that is the same as production requirements. 3.3. Bags are shrunk using hot water baths where appropriate. 3.4. Bagged cuts are left to drain. 3.5. Shut-down procedures are performed to workplace requirements.
4. Perform routine maintenance	4.1. Dyes are changed according to workplace requirements. 4.2. Corrective action is taken when leaks and defects are identified, according to workplace requirements. 4.3. Plates are changed as required.
5. Ensure quality of packaging and product	5.1. Bagged cuts are inspected for leaks and other defects. 5.2. Bagged cuts are placed in cartons according to specifications.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- prepare for vacuum packaging according to OH&S and workplace requirements
- vacuum pack bagged cuts with no leaks or defects
- *explain* defects that can occur during packaging
- demonstrate hygienic cleaning of equipment
- work effectively as an individual and as a team member
- demonstrate hygienic work practices for vacuum packing
- apply relevant *communication* and *mathematical skills*
- apply relevant *regulatory requirements*
- manage time and priorities
- take action to improve own work practice as a result of self-evaluation, feedback from others, or in response to changed work practices or technology

Required knowledge

Knowledge of:

- sub-standard or contaminated product and workplace procedures for dealing with sub-standard or contaminated product
- defects that can occur during packaging
- packaging requirements
- specific OH&S requirements for vacuum packing
- purpose of vacuum packaging
- relevant communication and mathematical skills
- relevant regulatory requirements
- general operating principles, including start-up and shut-down procedures
- manufacturer's and workplace requirements for vacuum packaging of product

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency should be demonstrated at the normal speed of production.

Context of, and specific resources for assessment

Assessment should take place in an operating meat processing plant or food service operation.

Method of assessment

Recommended methods of assessment include:

- assignments
- quiz of underpinning knowledge
- simulation
- workplace demonstration
- workplace project
- workplace referee or third-party report of performance over time.

Assessment practices should take into account any relevant language or cultural issues related to Aboriginality, gender, or language backgrounds other

EVIDENCE GUIDE	
	than English. Language and literacy demands of the assessment task should not be higher than those of the work role.
Guidance information for assessment	A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Workplace requirements</i> may include:</p>	<ul style="list-style-type: none"> • enterprise-specific procedures • OH&S requirements • QA requirements • Standard Operating Procedures (SOPs) • the ability to perform the task to production requirements.
<p><i>OH&S</i> requirements may include:</p>	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms

RANGE STATEMENT	
	<ul style="list-style-type: none"> • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
Hygiene and sanitation requirements may include:	<ul style="list-style-type: none"> • relevant government regulations • workplace requirements.
Explanations may:	<ul style="list-style-type: none"> • be completed with the assistance of others • be directly related to own work and work area problem solving • be in everyday workplace language and include mathematical language and commonly used technical terms • include information from several sources • be presented in writing using standard formats or proformas, diagrams, symbols and charts • be presented orally.
Communication skills may include:	<ul style="list-style-type: none"> • listening and understanding • sharing information • speaking clearly and directly • working with diverse individuals and groups.
Mathematical skills may include:	<ul style="list-style-type: none"> • accurate recording of temperature, time, volume, weight and quantity in standard formats or proformas • interpreting and drawing conclusions from routine charts, bar graphs, pie charts, etc • operations involving percentages, comparisons and variations • reading and interpreting analogue and digital measures including clocks, scales, pressure gauges, thermometers, cash registers • routine estimations and calculations using a range of specified formula and procedures • use of calculators and computer software packages.
Regulatory requirements may include:	<ul style="list-style-type: none"> • Export Control Act • hygiene and sanitation requirements • relevant Australian Standards • relevant regulations • requirements set out in the AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products

RANGE STATEMENT	
	for Human Consumption <ul style="list-style-type: none"> federal, state and territory regulations regarding meat processing.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMPSR203A Sharpen knives

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to maintain knives for safe and effective use in a meat establishment.
------------------------	---

Application of the Unit

Application of the unit	This unit is applicable to any worker who is required to sharpen a knife to use in a processing, wholesaling or retail meat establishment. This unit is a pre-requisite for any other unit where a knife is used to perform a task.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Sharpen <i>knives</i>	<p>1.1. Knives are sharpened according to <i>workplace requirements</i>.</p> <p>1.2. Knives are sharpened to maintain bevel edge.</p> <p>1.3. Steel is used correctly to maintain bevel edge and to meet OH&S requirements.</p>
2. Work safely with others	<p>2.1. Knives are used in ways which minimise the risk of injury.</p> <p>2.2. Knives are used safely at all times in accordance with <i>OH&S, hygiene and sanitation</i>, and food safety requirements.</p>
3. Maintain knives and associated equipment	<p>3.1. Knives are maintained to hygiene and sanitation, and workplace requirements.</p> <p>3.2. <i>Knife-sharpening equipment</i> is maintained, cleaned and stored to hygiene and sanitation, and workplace requirements.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- steel a knife correctly
- use safe techniques of knife sharpening to workplace, hygiene and sanitation, and OH&S requirements

Required knowledge

Knowledge of:

- steps in steeling a knife to maintain edge
- technique to sharpen a knife with an appropriate bevel edge
- theory of knife sharpening
- sterilisation, and hygiene and sanitation requirements related to knife sharpening
- OH&S issues related to the use and sharpening of knives
- relevant *regulatory requirements*

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.</p> <p>These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.</p> <p>Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.</p> <p>All assessment must be conducted against Australian meat industry standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency must be demonstrated in conjunction with a skill or task requiring the use of a knife.</p>
<p>Context of, and specific resources for assessment</p>	<p>Assessment can be carried out in an actual or simulated workplace.</p>
<p>Method of assessment</p>	<p>Recommended methods of assessment include:</p> <ul style="list-style-type: none"> • quiz of underpinning knowledge • workplace demonstration • workplace referee or third-party report of performance over time. <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>

EVIDENCE GUIDE**Guidance information for assessment**

A current list of resources for this Unit of Competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Knives include:

- boning
- steak
- skinning.

Workplace requirements may include:

- enterprise-specific requirements
- OH&S requirements
- Quality Assurance (QA) requirements
- Standard Operating Procedures (SOPs)
- the ability to perform the task to production requirements
- work instructions.

OH&S requirements may include:

- enterprise OH&S policies, procedures and programs
- OH&S legal requirements
- Personal Protective Equipment (PPE) which may include:
 - coats and aprons
 - ear plugs or muffs
 - eye and facial protection
 - head-wear
 - lifting assistance
 - mesh aprons
 - protective boot covers
 - protective hand and arm covering
 - protective head and hair covering

RANGE STATEMENT	
	<ul style="list-style-type: none"> • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Hygiene and sanitation</i> requirements may include:	<ul style="list-style-type: none"> • relevant government regulations • workplace requirements.
<i>Knife sharpening equipment</i> includes:	<ul style="list-style-type: none"> • sharpening stone • steels • setters • hollow grinders.
<i>Regulatory requirements</i> may include:	<ul style="list-style-type: none"> • Export Control Act • federal, state and territory regulations regarding meat processing • hygiene and sanitation requirements • relevant Australian Standards • relevant regulations • requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Competency field

Competency field	
------------------	--

MTMPSR407A Assess and evaluate meat industry requirements and processes

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the skills and knowledge required to assess and evaluate the role of the Australian meat industry as a part of the food processing sector, and the requirements to work in meat processing.
------------------------	---

Application of the Unit

Application of the unit	This unit applies to food technologists, industry researchers, and to middle management personnel who are new to the industry. It includes gaining an understanding of the economic and political structure of the industry, production stages and methods, and key factors affecting meat safety, quality and market access.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish livestock production and transport requirements	1.1. Production techniques impacting meat quality are explained for the range of <i>species</i> involved. 1.2. Role and purpose of traceability requirements are explained. 1.3. Purchasing process and selling alternatives for livestock are explained. 1.4. Relationship between transport arrangements and meat quality are explained. 1.5. Potential product quality, animal welfare and food safety hazards from transporting livestock are identified.
2. Identify the sequence of operations for meat processing in an abattoir	2.1. Critical elements of the slaughtering process are identified. 2.2. Critical elements of the boning process are identified. 2.3. Role and purpose of rendering are explained. 2.4. Offal processing requirements are explained. 2.5. Differences between export and domestic requirements are identified.
3. Explain factors affecting food safety and meat quality during processing	3.1. Key meat safety issues are described. 3.2. Key legislation and regulations affecting meat processing are identified. 3.3. Impacts of seasonal and geographical factors on meat quality are explained. 3.4. The nature and purpose of the Meat Standards Australia (MSA) program are described. 3.5. Impacts of further processing on meat quality are explained. 3.6. Factors affecting shelf life and meat quality are explained. 3.7. The nature and purpose of a meat testing program are explained.
4. Identify processes and process controls for a range of meat smallgoods	4.1. Differences between product sources are identified. 4.2. Key smallgoods products and production processes are identified. 4.3. Food safety requirements impacting smallgoods production are explained.
5. Define the structure and nature of meat	5.1. Differences between supermarket, independent and wholesale butchers are identified.

ELEMENT	PERFORMANCE CRITERIA
retailing in Australia	<p>5.2. <i>Regulatory requirements</i> directly impacting meat retailing are explained.</p> <p>5.3. Key meat product lines and the role of value-adding are identified.</p> <p>5.4. The impact of <i>customer requirements and expectations</i> are explained.</p> <p>5.5. Food safety requirements impacting retail operations are explained.</p>
6. Identify key issues and bodies that impact the Australian meat industry	<p>6.1. Impacts of climatic factors on the meat industry are explained.</p> <p>6.2. <i>Key issues impacting meat industry employment</i> are explained.</p> <p>6.3. <i>Environmental impacts of a meat processing site</i> are reviewed.</p> <p>6.4. Impacts of <i>changing customer expectations</i> are explained.</p> <p>6.5. The role of <i>key industry bodies</i> is described.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- analyse and interpret work instructions, Standard Operating Procedures (SOPs), safety and hygiene procedures, and other workplace documentation
- identify livestock
- locate, and interpret industry information
- distinguish between meat products and the processes to produce them
- identify personal hygiene and operational sanitation procedures
- identify and Occupational Health and Safety (OH&S) risks
- apply sustainable work practices

Required knowledge

Knowledge of:

- factors which impact on meat safety and quality through the supply chain

REQUIRED SKILLS AND KNOWLEDGE

- the main animal welfare issues associated with the production and processing animals for human consumption
- main markets for meat
- common causes and impact of contamination
- relationship between food safety and market access
- nature and structure of the Australian meat processing industry
- principles of Quality Assurance (QA) and traceability from paddock to retailer
- slaughtering and boning processes
- nature and purpose of the AUS-MEAT and MSA programs
- customer requirements
- value-adding of meat products

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Critical aspects of assessment must include the following:

- describe the livestock production and marketing, and retailing systems for the meat industry
- document the sequence of operations for livestock slaughter and meat processing
- define processes for a range of meat smallgoods
- describe production factors influencing meat quality and safety
- comply with industry requirements for hygiene, OH&S and other work practices.

Context of and specific resources for assessment

Assessment of performance requirements in this unit should be undertaken within the context of food technology in the meat processing industry.

Assessment must occur in a real or simulated workplace where the candidate has access to:

- production process and related equipment,

EVIDENCE GUIDE	
	<p>manufacturers' advice and operating procedures</p> <ul style="list-style-type: none"> • equipment and facilities for carrying out slaughtering of livestock and processing of primary cuts of meat.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • written and/or oral questioning to assess knowledge and understanding • direct or third-party evidence of compliance with enterprise procedures for hygiene and OHS • a process chart developed and explanation of the sequence of operations for meat processing in an abattoir. <p>Evidence should be gathered over a period of time in a range of actual or simulated environments.</p> <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>
Guidance information for assessment	<p>A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Production techniques</i> may include:</p>	<ul style="list-style-type: none"> • location • flock/herd size • feedlots or paddock raised • organic

RANGE STATEMENT	
	<ul style="list-style-type: none"> • research trials.
<i>Species</i> to be slaughtered may include:	<ul style="list-style-type: none"> • cattle • sheep • goats • pigs • horses • ratites • crocodiles.
<i>Traceability requirements</i> may include:	<ul style="list-style-type: none"> • National Livestock Identification Scheme (NLIS) • ear and tail tags • state-based requirements • PigPass • disease notification • customer requirements, such as Country of Origin Labelling (COOL).
<i>Purchasing process and selling alternatives</i> may include:	<ul style="list-style-type: none"> • contractual requirements • 'over the hook' • live purchasing in paddock or saleyards • computer selling • major customers (e.g. Woolworths, Tesco, McDonalds) paddock-plate purchasing systems.
<i>Critical elements of the slaughtering process</i> will include:	<ul style="list-style-type: none"> • animal welfare and handling requirements • quality determinants (e.g. stress) • carcass description • food safety and testing regimes • stunning and slaughtering procedures • hide removal • evisceration • time and temperature requirements for carcass chilling and freezing.
<i>Critical elements of the boning process</i> will include:	<ul style="list-style-type: none"> • cut descriptions • integrated/independents boning rooms • customer specifications

RANGE STATEMENT	
	<ul style="list-style-type: none"> • packaging • refrigeration and freezing requirements • transport arrangements • traceability • micro testing • hygiene and sanitation • physical and micro contamination.
<i>Export and domestic requirements</i> will include	<ul style="list-style-type: none"> • Approved Arrangements • livestock traceability • micro testing • product traceability and recall arrangements • regulatory and standards frameworks • roles and requirements of Australian Quarantine Inspection Service AQIS and State Meat Authorities • Meat Hygiene Assessment (MHA) • Refrigeration Index • MSA • food safety testing regimes • animal welfare • social accountability • food safety • market access • cuts and specifications • religious requirements • kill method • processing and packing procedures • types of packaging • environmental impacts of meat production and processing.
<i>Key legislation and regulations</i> may include:	<ul style="list-style-type: none"> • Australian Standards • Export Act • Approved Arrangements • State-based legislation • Codes of Practice (e.g. Animal Welfare) • OH&S legislation.
<i>Meat testing programs</i> may include:	<ul style="list-style-type: none"> • microbiological testing • residue testing • species testing

RANGE STATEMENT	
	<ul style="list-style-type: none"> • temperature logging • Critical Control Points (CCPs) • role of AQIS and National Association of Testing Authorities (NATA) in laboratory accreditation.
Product sources for smallgoods production may include:	<ul style="list-style-type: none"> • imported product • Australian product • different species (e.g. cattle, sheep, goats and pigs) • product additives and mixes (e.g. emulsions, spices and nitrites/nitrates).
Smallgoods products and production processes will include:	<ul style="list-style-type: none"> • smoked product • cooked product • Uncooked Comminuted Fermented Meat UCFM • dried meats • factory-type production techniques • independent retailer production techniques • regulatory requirements • processing equipment.
Food safety requirements impacting smallgoods production will include:	<ul style="list-style-type: none"> • UCFM • thawing processes • uncooked/cooked product handling requirements • blending/batching processes • packaging requirements • product storage and transport requirements.
Regulatory requirements impacting meat retailing will include:	<ul style="list-style-type: none"> • role of State and Council authorities • environmental requirements • legislation, regulations and Codes of Practice • OH&S, Equal Employment Opportunity (EEO) legislation • Modern Awards • Food Standards Code.
Customer requirements and expectations affecting meat retailing may include:	<ul style="list-style-type: none"> • species and cuts • packaging • value-adding • religious • dietary and allergen requirements.

RANGE STATEMENT	
<i>Key issues impacting meat industry employment may include:</i>	<ul style="list-style-type: none"> • labour supply and market characteristics • meat industry career structures • role and nature of training • role of overseas workers • seasonal and market factors • national policies and regulations.
<i>Environmental impacts of a meat processing site may include:</i>	<ul style="list-style-type: none"> • water use • waste water • emissions • power sources and consumption.
<i>Changing customer expectations may include:</i>	<ul style="list-style-type: none"> • animal welfare and handling • organic production • social accountability • ethical production • traceability.
<i>Key industry bodies will include</i>	<ul style="list-style-type: none"> • state and federal regulators • peak industry bodies (e.g. MLA, AMIC and AMPC) • unions covering the industry (e.g. (Australian Meat industry Employees Union AMIEU)) • AUS-MEAT • Standards determining bodies: <ul style="list-style-type: none"> • International Organization for Standardization (ISO) • Joint Accreditation System of Australia and New Zealand (JAS ANZ) • Food Standard Australia New Zealand (FSANZ).

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMPSR408A Specify beef product using AUS-MEAT language

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to use AUS-MEAT language in defining beef specifications. Satisfactory completion of assessment conducted by AUS-MEAT is required before an individual can gain AUS-MEAT Accreditation for Beef Boning Room Standards Officers. People who have satisfactorily completed AUS-MEAT Accreditation for Beef Boning Room Standards Officers will have satisfied the requirements for this unit of competency.
------------------------	--

Application of the Unit

Application of the unit	<p>This unit prepares workers to work with beef cuts, specifications and cutting lines.</p> <p>Participants will be directly involved in demonstration and explanation of:</p> <ul style="list-style-type: none"> • achieving maximum yields and returns • basic anatomy • cutting lines • detecting and recording defects • product description • specifications and verification.
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify anatomical features of a beef carcass	1.1. Directions on a carcass are described using the anatomical direction format. 1.2. Bones relevant to meat <i>specifications</i> in a beef skeleton are located and identified. 1.3. Major <i>muscles</i> relevant to meat specifications are identified. 1.4. Major glands and cartilage relevant to meat specifications are identified.
2. Identify and name meat products using the standard product description	2.1. Nature and format of product specifications are identified. 2.2. Standardised cut descriptions are used and correctly spelt to name meat products. 2.3. Major muscles that make up each meat cut are identified. 2.4. Correct cutting lines for each product are identified using the correct anatomical features to describe the cutting lines. 2.5. What must be altered from any given meat product for it to comply with the company product specification is identified.
3. Check <i>beef product</i> complies with written specifications	3.1. Beef product compliance with written specifications is checked and principles of Quality Assurance (QA) are described. 3.2. Sections of the workplace QA system related to ensuring beef product compliance are described to AUS-MEAT product description requirements. 3.3. Non-conforming product is defined and described in relation to workplace requirements. 3.4. Critical Control Points (CCPs) are identified and monitored in accordance with <i>workplace requirements</i> .
4. Assess product compliance	4.1. Product compliance with written specifications is assessed in accordance with workplace and AUS-MEAT product description requirements. 4.2. Product description given in written specifications is identified and explained. 4.3. Corrective action is taken in the event of non-conformance to beef product specifications.
5. <i>Measure and check</i> product compliance	5.1. Cutting lines and muscle content is checked in accordance with written specifications.

ELEMENT	PERFORMANCE CRITERIA
against written specifications	5.2. Non-conforming product that can be made to comply with the specification is identified.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- apply relevant *communication* and *problem-solving skills*
- work effectively as an individual and as a team member
- identify and apply relevant *Occupational Health and Safety OH&S requirements*
- identify and apply relevant workplace and *regulatory requirements*
- identify and explain AUS-MEAT language specifications on beef product label
- identify non-conforming product in accordance with specifications
- take action to improve own work practice as a result of self-evaluation, feedback from others, or in response to changed work practices or technology

Required knowledge

Knowledge of:

- corrective action procedures for non-conforming product
- product specification points

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.</p> <p>These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.</p> <p>Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.</p> <p>All assessment must be conducted against Australian meat industry standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency must be demonstrated over time and under normal enterprise or production conditions.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in the workplace under normal enterprise or production conditions.</p>
<p>Method of assessment</p>	<p>Recommended methods of assessment include:</p> <ul style="list-style-type: none"> • completion of standard AUS-MEAT assessment • workplace demonstration • quiz of underpinning knowledge • workplace referee report of performance over time. <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>

EVIDENCE GUIDE**Guidance information for assessment**

A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Specifications may include:

- approval system
- AUS-MEAT
- communication
- measurement
- technical accuracy.

Muscles may include cuts from:

- forequarter (major)
- hindquarter (major).

Beef product may include:

- muscle content
- points of specification
- product compliance
- product name.

Workplace requirements may include:

- enterprise-specific requirements
- OH&S requirements
- QA requirements
- Standard Operating Procedures (SOPs)
- the ability to perform the task to production requirements
- work instructions.

Measurement and checking may include:

- data collection
- frequency
- interpreting data
- monitoring sheets
- non-conforming products
- sample size

RANGE STATEMENT	
	<ul style="list-style-type: none"> taking measurements.
<i>Communication</i> skills may include:	<ul style="list-style-type: none"> applying numeracy skills to workplace requirements interpreting the needs of internal or external customers listening and understanding reading and interpreting workplace documentation sharing information speaking clearly and directly writing to audience needs.
<i>Problem-solving skills</i> may involve:	<ul style="list-style-type: none"> applying a range of strategies in problem-solving developing practical and creative solutions to workplace problems solving problems individually or in teams testing assumptions and taking context into account using numeracy skills to solve problems.
<i>OH&S requirements</i> may include:	<ul style="list-style-type: none"> enterprise OH&S policies, procedures and programs OH&S legal requirements Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> coats and aprons ear plugs or muffs eye and facial protection head-wear lifting assistance mesh aprons protective boot covers protective hand and arm covering protective head and hair covering uniforms waterproof clothing work, safety or waterproof footwear requirements set out in standards and codes of practice.
<i>Regulatory requirements</i> may	<ul style="list-style-type: none"> Export Control Act hygiene and sanitation requirements

RANGE STATEMENT	
include:	<ul style="list-style-type: none"> • relevant Australian Standards • relevant regulations • requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption • state and territory regulations regarding meat processing.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMPSR409A Specify sheep product using AUS-MEAT language

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit covers the skills and knowledge required to use AUS-MEAT language in defining sheep specifications. This unit may also be used to specify goat product. Satisfactory completion of assessment conducted by AUS-MEAT is required before an individual can gain AUS-MEAT accreditation for Sheepmeat Boning Room Standards Officers. People who have satisfactorily completed AUS-MEAT Accreditation for Sheepmeat Boning Room Standards Officers will have satisfied the requirements for this unit of competency.</p>
------------------------	--

Application of the Unit

Application of the unit	<p>This unit prepares the workers to work with sheep cuts, specifications and cutting lines.</p> <p>Participants will be directly involved in demonstration and explanation of:</p> <ul style="list-style-type: none"> • achieving maximum yields and returns • basic anatomy • cutting lines • detecting and recording defects • product description • specifications and verification.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify anatomical features of a sheep carcase	1.1. Directions on a carcase are described using the anatomical direction format. 1.2. Bones relevant to meat <i>specifications</i> in a sheep skeleton are located and identified 1.3. Major <i>muscles</i> relevant to meat specifications are identified. 1.4. Major glands and cartilage relevant to meat specifications are identified.
2. Identify and name meat products using the standard product description	2.1. Nature and format of product specifications are identified. 2.2. Standardised cut descriptions are used and correctly spelt to name meat products 2.3. Major muscles that make up each meat cut are identified. 2.4. Correct cutting lines for each product are identified using the correct anatomical features to describe the cutting lines. 2.5. What must be altered from any given meat product for it to comply with the company product specification is identified.
3. Check <i>sheep product</i> complies with written specifications	3.1. Sheep product compliance with written specifications is checked and principles of Quality Assurance (QA) are described. 3.2. Sections of the workplace quality assurance system related to ensuring sheep product compliance are described to AUS-MEAT product description. 3.3. Non-conforming product is defined and described in relation to <i>workplace requirements</i> . 3.4. Critical Control Points (CCPs) are identified and monitored in accordance with workplace requirements.
4. Assess product compliance	4.1. Product compliance with written specifications is assessed in accordance with workplace and AUS-MEAT product description requirements. 4.2. Product description given in written specifications is identified and explained. 4.3. Corrective action is taken in the event of non-conformance to sheep product specifications.
5. <i>Measure and check</i> product compliance	5.1. Cutting lines and muscle content is checked in accordance with written specifications.

ELEMENT	PERFORMANCE CRITERIA
against written specifications	5.2. Non-conforming product that can be made to comply with the specification is identified.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- apply relevant *communication* and *problem-solving skills*
- work effectively as an individual and as a team member
- identify and apply relevant *Occupational Health and Safety (OH&S) requirements*
- identify and apply relevant workplace and *regulatory requirements*
- identify and explain AUS-MEAT language specifications on sheepmeat product label
- identify non-conforming product in accordance with specifications
- take action to improve own work practice as a result of self-evaluation, feedback from others, or in response to changed work practices or technology

Required knowledge

Knowledge of:

- corrective action procedures for non-conforming product
- product specification points

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.</p> <p>These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.</p> <p>Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.</p> <p>All assessment must be conducted against Australian meat industry standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency must be demonstrated over time and under normal enterprise or production conditions.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in the workplace under normal enterprise or production conditions.</p>
<p>Method of assessment</p>	<p>Recommended methods of assessment include:</p> <ul style="list-style-type: none"> • completion of standard AUS-MEAT assessment • workplace demonstration • quiz of underpinning knowledge • workplace referee report of performance over time. <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>

EVIDENCE GUIDE**Guidance information for assessment**

A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Specifications may include:

- approval system
- AUS-MEAT
- communication
- measurement
- technical accuracy.

Muscles may include cuts from:

- forequarter (major)
- hindquarter (major).

Sheep product may include:

- muscle content
- points of specification
- product compliance
- product name.

Workplace requirements may include:

- enterprise-specific requirements
- OH&S requirements
- QA requirements
- Standard Operating Procedures (SOPs)
- the ability to perform the task to production requirements
- work instructions.

Measurement and checking may include:

- data collection
- frequency
- interpreting data
- monitoring sheets
- non-conforming products
- sample size

RANGE STATEMENT	
	<ul style="list-style-type: none"> taking measurements.
<i>Communication</i> skills may include:	<ul style="list-style-type: none"> applying numeracy skills to workplace requirements interpreting the needs of internal or external customers listening and understanding reading and interpreting workplace documentation sharing information speaking clearly and directly writing to audience needs.
<i>Problem-solving skills</i> may involve:	<ul style="list-style-type: none"> applying a range of strategies in problem-solving developing practical and creative solutions to workplace problems solving problems individually or in teams testing assumptions and taking context into account using numeracy skills to solve problems.
<i>OH&S requirements</i> may include:	<ul style="list-style-type: none"> enterprise OH&S policies, procedures and programs OH&S legal requirements Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> coats and aprons ear plugs or muffs eye and facial protection head-wear lifting assistance mesh aprons protective boot covers protective hand and arm covering protective head and hair covering uniforms waterproof clothing work, safety or waterproof footwear requirements set out in standards and codes of practice.
<i>Regulatory requirements</i> may	<ul style="list-style-type: none"> Export Control Act hygiene and sanitation requirements

RANGE STATEMENT	
include	<ul style="list-style-type: none"> • relevant Australian Standards • relevant regulations • requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption • state and territory regulations regarding meat processing.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMPSR410A Specify pork product using AUS-MEAT language

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to use AUS-MEAT language in defining pork specifications. Satisfactory completion of assessment conducted by AUS-MEAT is required before an individual can gain AUS-MEAT accreditation for Pork Boning Room Standards Officers. People who have satisfactorily completed AUS-MEAT Accreditation for Pork Boning Room Standards Officers will have satisfied the requirements for this Unit of Competency.
------------------------	--

Application of the Unit

Application of the unit	This unit prepares the workers to work with pigmeat cuts, specifications and cutting lines. Participants will be directly involved in demonstration and explanation of: <ul style="list-style-type: none"> • achieving maximum yields and returns • basic anatomy • cutting lines • detecting and recording defects • product description • specifications and verification.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify anatomical features of a pork carcass	1.1. Directions on a carcass are described using the anatomical direction format. 1.2. Bones relevant to meat <i>specifications</i> in a pork skeleton are located and identified. 1.3. Major <i>muscles</i> relevant to meat specifications are identified. 1.4. Major glands and cartilage relevant to meat specifications are identified.
2. Identify and name meat products using the standard product description	2.1. Nature and format of product specifications are identified. 2.2. Standardised cut descriptions are used and correctly spelt to name meat products 2.3. Major muscles that make up each meat cut are identified. 2.4. Correct cutting lines for each product are identified using the correct anatomical features to describe the cutting lines. 2.5. What must be altered from any given meat product for it to comply with the company product specification is identified.
3. Check <i>pork product</i> complies with written specifications	3.1. Pork product compliance with written specifications is checked and principles of Quality Assurance (QA) are described. 3.2. Sections of the workplace QA system related to ensuring pork product compliance are described to AUS-MEAT product description. 3.3. Non-conforming product is defined and described in relation to <i>workplace requirements</i> . 3.4. Critical Control Points (CCPs) are identified and monitored in accordance with workplace requirements.
4. Assess product compliance	4.1. Product compliance with written specifications is assessed in accordance with workplace requirements and AUS-MEAT product description. 4.2. Product description given in written specifications is identified and explained. 4.3. Corrective action is taken in the event of non-conformance to pork product specifications.
5. <i>Measure and check</i> product compliance	5.1. Cutting lines and muscle content is checked in accordance with written specifications.

ELEMENT	PERFORMANCE CRITERIA
against written specifications	5.2. Non-conforming product that can be made to comply with the specification is identified.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- apply relevant *communication* and *problem-solving skills*
- work effectively as an individual and as a team member
- identify and apply relevant *Occupational Health and Safety (OH&S) requirements*
- identify and apply relevant *workplace* and *regulatory requirements*
- identify and explain AUS-MEAT language specifications on pork product label
- identify non-conforming product in accordance with specifications
- take action to improve own work practice as a result of self-evaluation, feedback from others, or in response to changed work practices or technology

Required knowledge

Knowledge of:

- corrective action procedures for non-conforming product
- product specification points

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.</p> <p>These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.</p> <p>Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.</p> <p>All assessment must be conducted against Australian meat industry standards and regulations.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Competency must be demonstrated over time and under normal enterprise or production conditions.</p>
<p>Context of and specific resources for assessment</p>	<p>Assessment must occur in the workplace under normal enterprise or production conditions.</p>
<p>Method of assessment</p>	<p>Recommended methods of assessment include:</p> <ul style="list-style-type: none"> • completion of standard AUS-MEAT assessment • workplace demonstration • quiz of underpinning knowledge • workplace referee report of performance over time. <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>

EVIDENCE GUIDE**Guidance information for assessment**

A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Specifications may include:

- approval system
- AUS-MEAT
- communication
- measurement
- technical accuracy.

Muscles may include cuts from:

- forequarter (major)
- hindquarter (major).

Pork product may include:

- muscle content
- points of specification
- product compliance
- product name.

Workplace requirements may include:

- enterprise-specific requirements
- OH&S requirements
- QA requirements
- Standard Operating Procedures (SOPs)
- the ability to perform the task to production requirements
- work instructions.

Measurement and checking may include:

- data collection
- frequency
- interpreting data
- monitoring sheets
- non-conforming products
- sample size

RANGE STATEMENT	
	<ul style="list-style-type: none"> taking measurements.
<i>Communication</i> skills may include:	<ul style="list-style-type: none"> applying numeracy skills to workplace requirements interpreting the needs of internal or external customers listening and understanding reading and interpreting workplace-related documentation sharing information speaking clearly and directly writing to audience needs.
<i>Problem-solving skills</i> may involve:	<ul style="list-style-type: none"> applying a range of strategies in problem-solving developing practical and creative solutions to workplace problems solving problems individually or in teams testing assumptions and taking context into account using numeracy skills to solve problems.
<i>OH&S requirements</i> may include:	<ul style="list-style-type: none"> enterprise OH&S policies, procedures and programs OH&S legal requirements Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> coats and aprons ear plugs or muffs eye and facial protection head-wear lifting assistance mesh aprons protective boot covers protective hand and arm covering protective head and hair covering uniforms waterproof clothing work, safety or waterproof footwear requirements set out in standards and codes of practice.
<i>Regulatory requirements</i> may	<ul style="list-style-type: none"> Export Control Act hygiene and sanitation requirements

RANGE STATEMENT	
include:	<ul style="list-style-type: none"> • relevant Australian Standards • relevant regulations • requirements set out in AS 4696:2007 Australian Standard for Hygienic Production and Transportation of Meat and Meat Products for Human Consumption • state and territory regulations regarding meat processing.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMPSR5601C Design and manage the food safety system

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to design and manage food safety programs for a meat industry enterprise including meat processing, smallgoods, retail and food services operations. The unit also covers skills and knowledge for working with customers and consumers on food safety issues.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit is appropriate for all managers in a food safety and/or Quality Assurance (QA) role, and for those working in production roles with responsibility for food safety and QA within their job role.</p> <p>Food safety is a critical element of product quality and is a priority for all sectors of the meat processing industry. Food safety is also a community issue and public perceptions of the safety of meat and meat products impact on the viability of meat processing enterprises.</p>
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish enterprise meat or food safety system requirements	<p>1.1. Goals, scope and requirements of <i>food safety system</i> are determined, consistent with customer, enterprise and <i>regulatory requirements</i>.</p> <p>1.2. Alternative food safety systems are evaluated against enterprise requirements and preferred system is identified.</p> <p>1.3. Development of the food safety system is carefully planned, using team and consultative approaches.</p> <p>1.4. Resource requirements, including staff training requirements, for effective systems operation and maintenance are identified and obtained.</p>
2. Develop food safety systems	<p>2.1. Food safety responsibilities, obligations and roles are identified and clearly explained to <i>stakeholders</i>.</p> <p>2.2. Processes covered by the food safety system are identified and described.</p> <p>2.3. Food safety hazards are identified for all processes within the scope of the food safety system.</p> <p>2.4. Hazard control measures are identified, developed and validated.</p> <p>2.5. Procedures for <i>preventative action</i> are developed.</p>
3. Establish monitoring procedures and corrective actions	<p>3.1. Monitoring procedures are developed and <i>monitoring</i> information is used to inform <i>corrective actions</i>.</p> <p>3.2. Corrective actions are developed and implemented to effectively control hazards.</p> <p>3.3. Recording and <i>documentation</i> procedures are developed, maintained and secured.</p> <p>3.4. <i>Strategies to support the workforce</i> in the routine and consistent application of food safety systems are developed, resourced and implemented.</p>
4. Evaluate food safety system	<p>4.1. <i>Audit procedures</i> are established and audits monitored.</p> <p>4.2. <i>Verification procedures and schedules</i> are established and verification information is used in the review of the food safety system.</p> <p>4.3. Food safety system is reviewed and updated for changes in Australian Standards, <i>technical information</i> (including verification data) and process information according to established procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>4.4. Food safety systems are prepared for external review and approval by relevant authorities.</p> <p>4.5. Performance information is used to measure performance against policies and goals.</p>
5. Communicate food safety outcomes	<p>5.1. Interactions with the public, regulatory authorities and agencies are conducted in a positive, cooperative and open manner.</p> <p>5.2. Food safety incidents and non-compliances are reported promptly to relevant authorities.</p> <p>5.3. Customer and consumer feedback is gathered, analysed and included in review of the food safety system.</p> <p>5.4. Food safety system outcomes are documented to promote public confidence in enterprise products and services.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- analyse performance information to determine progress and areas for review or improvement
- consult with stakeholders to determine the scope of the *food safety systems, procedures and controls* and identify food handling practices, processing techniques and support programs in use
- demonstrate detailed knowledge of Hazard Analysis Critical Control Point HACCP principles and techniques and where appropriate to the enterprise, Good Manufacturing Practices (GMP)
- demonstrate detailed knowledge of *validation* and verification (including audit) purposes and processes
- demonstrate substantial product and process knowledge and the microbiological, physical and chemical impacts on the safety of enterprise meat and meat products in the identification of hazards and the assessment and control of food safety risks
- determine measures for correcting processes or outcomes outside acceptable limits or support program requirements including procedure to be followed, when corrective action must be implemented, the person responsible for taking corrective

REQUIRED SKILLS AND KNOWLEDGE

action and the information to be recorded

- develop and validate control measures using objective data, industry guidelines and codes of practice
- develop performance standards and criteria for the food safety system
- develop strategies to support the workforce in the implementation of the food safety system
- establish internal audit processes and schedules, including developing and leading the audit team
- establish procedures to monitor, review and secure record-keeping systems consistent with regulatory requirements
- establish verification procedures and schedules and identify action required if the outcomes of verification indicate that the program requirements have not been met or that the original program was inadequate
- establish, monitor and continuously improve food safety support systems consistent with regulatory requirements
- evaluate alternative food and/or meat safety systems for suitability for enterprise goals and directions, enterprise operations, enterprise product, cost and customer and regulatory requirements
- identify and apply relevant *Occupational Health and Safety (OH&S)*, regulatory and *workplace requirements*
- identify *monitoring requirements* and develop monitoring procedures *for food safety hazards* identified in the enterprise
- identify workforce training needs and negotiate and schedule training to support system requirements and operation
- liaise with suppliers to establish and monitor enterprise food safety and quality requirements for products and processes
- maintain currency of knowledge through independent research or professional development
- monitor *public health requirements* and concerns and prepare reports for the enterprise, public health authorities, customers and consumers on progress and outcomes of the food safety system.
- monitor the implementation of preventative action measures, controls and actions to correct non-compliance or non-conformances
- prepare accurate reports for senior management detailing compliance breaches/incidents, actions and outcomes and the implications for the enterprise
- prepare action plans for the development and review of the food safety system, which include timelines, the establishment, leading and support of the HACCP team
- prepare and present food safety system information, procedures, documentation and reports in languages, formats and styles appropriate for the audience and purpose
- prepare *communication* strategies to inform internal and external stakeholders of progress and outcomes of the food safety system

REQUIRED SKILLS AND KNOWLEDGE

- prepare HACCP plans and support documentation including hazard analysis charts and tables, manuals, data analysis reports, corrective action reports and verifications reports, Standard Operating Procedures (SOPs) and work instructions where appropriate for the enterprise system
- provide feedback to the workforce or team on food safety performance
- take action to improve own work practice as a result of self-evaluation, feedback from others or in response to changed work practices or technology.
- use appropriate communication skills and strategies for informing and confirming the roles, responsibilities and obligations of all participants in the operation of the enterprise
- use available technology and *data management systems* to gather, record, manipulate, interpret and report food safety data and information

Required knowledge

Knowledge of:

- enterprise's ethical standards and the implications for the food safety system
- roles, responsibilities and obligations of the enterprise and individuals in the food safety system
- regulatory requirements for food safety, including HACCP-based programs, support programs, record-keeping, verification and internal/external audits, and explain the implications for enterprise operations
- scope, auditor role and responsibility, and scheduling requirements for internal and external audit process
- legal responsibilities for reporting audit findings, including breaches and non-compliances to enforcement agencies, and for conflicts of interest, confidentiality, rights of appeal and giving evidence in court

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated through sustained performance over time, at an appropriate level of responsibility and authority under typical operating and production conditions for the enterprise.

Context of and specific resources for assessment

Resources may include:

- a real work environment
- relevant documentation such as:
 - workplace policies and procedures
 - manufacturer instructions and operations manuals
 - regulatory requirements
- relevant equipment and materials.

Method of assessment

Recommended methods of assessment include:

- a third-party referee report of sustained performance at appropriate level of authority and responsibility
- assignment focusing on understanding and application of principles and theory to workplace operations

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> workplace projects which focus on company environment and conditions. <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>
Guidance information for assessment	A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Food safety systems:</i>	<ul style="list-style-type: none"> are written documents required by legislation which specify how businesses will control all food safety hazards that are reasonably expected to occur within a food enterprise may be developed by personnel within the enterprise or by external consultants may be developed within an enterprise's QA system or as a discrete program must provide for the systematic monitoring of controls and actions to correct hazards not under control (records demonstrating action in relation to or in compliance with the food safety program must be kept) may be for export or domestic processing, smallgoods manufacturing, wholesaling, cold stores or retail enterprises may be ISO-based or non ISO-based.

RANGE STATEMENT	
Regulatory requirements may include:	<ul style="list-style-type: none"> • animal welfare • commercial law including fair trading, trade practices • consumer law • corporate law, including registration, licensing, financial reporting • environmental and waste management • Equal Employment Opportunity (EEO), anti-discrimination and sexual harassment • Export Control Act • industrial awards, agreements • Australian Standards • relevant regulations • state and territory regulations regarding meat processing • taxation.
Stakeholders may include:	<ul style="list-style-type: none"> • company owners, directors, shareholders, financiers • competitors • management and employees • regulatory authorities • suppliers, customers, consumers • unions and employer associations.
Preventative action may involve:	<ul style="list-style-type: none"> • revision of materials, processes and/or food handling procedures • revision of workplace practices and documentation such as specifications, SOPs, approved supplier programs, and work instructions.
Product/process monitoring may be:	<ul style="list-style-type: none"> • microbiological or chemical testing • online testing • sensory.
A corrective action plan identifies:	<ul style="list-style-type: none"> • non-conformance • corrective actions • date by which action must be taken • other follow up requirements.
Food safety documentation includes:	<ul style="list-style-type: none"> • amendment registers • Critical Control Point (CCP) monitoring forms and additional monitoring requirements • CCP work instructions • factory/shop floor plan

RANGE STATEMENT	
	<ul style="list-style-type: none"> • HACCP audit table • HACCP team register • hazard analysis table • process flow charts • product description or use • supporting programs and schedules relating to hygiene, cleaning and sanitation procedures, work instructions, approved chemicals, calibration, pest control, training, product identification and recall.
Technical information includes:	<ul style="list-style-type: none"> • conditions for bacterial food poisoning, including: <ul style="list-style-type: none"> • product composition • temperature • time • aw • pH.
Strategies to support the workforce in the implementation of the food safety system may include:	<ul style="list-style-type: none"> • clear signage • coaching and mentoring • development and presentation of procedures in plain language and visuals • implementation of problem-solving by work teams to develop and monitor food safety procedures • initial and refresher structured training programs • provision of appropriate work areas and equipment.
Food safety systems, procedures and controls apply to:	<ul style="list-style-type: none"> • display, packaging and sale of food, including meat and meat products • equipment design, use and maintenance • handling and disposal of condemned or recalled food, including meat, products • location, construction and servicing of meat premises • processing, further processing and preparation of food including meat and meat products • receipt, storage and transportation of food including meat and meat products.
Validation is:	<ul style="list-style-type: none"> • the identification, collection and analysis of objective information to confirm that

RANGE STATEMENT	
	operations (e.g. equipment, processes, procedures) are able to provide the required food safety outcomes.
<i>Audit procedures</i> include:	<ul style="list-style-type: none"> • planning • establishing controls • developing the team • conducting entry and exit meetings • controlling caucus meetings • issuing corrective action requests • preparing reports • giving feedback and input into the improvement of the system.
<i>Verification procedures and schedules</i> may be defined in:	<ul style="list-style-type: none"> • legislation relevant to the sector (verification applies to all aspects of the food safety program including documentation, auditing and support programs).
<i>OH&S</i> requirements may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • hygiene and sanitation requirements • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • mesh aprons • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise ethical standards, values and obligations • enterprise-specific procedures, policies and plans

RANGE STATEMENT	
	<ul style="list-style-type: none"> • SOPs • work instructions.
<i>Monitoring requirements for food safety hazards</i> include:	<ul style="list-style-type: none"> • a description of the method or procedure to be followed • the frequency and timing • the information to be recorded (procedures to be followed would typically be specified in the form of a SOP or work instruction) • the person responsible.
<i>Public health requirements</i> include the impacts of pathogenic bacteria such as:	<ul style="list-style-type: none"> • Clostridium etc • E.coli • Listeria • Salmonella • Yersinia.
<i>Communication</i> may:	<ul style="list-style-type: none"> • be spoken, written, non-verbal and include the use of signs, signals, symbols and pictures • be with colleagues, team members, superiors, customers, clients, external parties from a range of cultural, social and ethnic backgrounds • involve reading and interpreting workplace documents • require the use of negotiation, persuasion and assertiveness skills.
<i>Data management systems</i> may be manual or computerised, cover data collection, data monitoring and data analysis and interpretation and include:	<ul style="list-style-type: none"> • calculators • charting and graphing materials • computer software packages including spreadsheets, statistical analysis packages • computerised equipment • inspection regimes • manual measuring equipment (e.g. thermometers, pressure gauges, scales) • monitoring sheets and records • product quality and safety.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--

MTMR308C Prepare and produce value-added products

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to prepare and produce more complex value added products, such as those employing pastries, dairy products or cooking. It includes preparing ingredients and following recipes. The operation of processing equipment to produce value-added products may also be required.
------------------------	--

Application of the Unit

Application of the unit	This unit is applicable to meat retailing and food services enterprises.
--------------------------------	--

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare and operate processing equipment used in producing <i>value-added products</i>	<p>1.1. Processing equipment is prepared and operated according to hygiene, and health and safety requirements.</p> <p>1.2. Faults are identified in line with manufacturer and <i>workplace requirements</i>.</p> <p>1.3. Equipment is used according to manufacturer, workplace and <i>Occupational Health and Safety (OH&S) requirements</i>.</p> <p>1.4. Start-up and shut-down procedures are performed according to manufacturer and workplace requirements.</p>
2. Clean processing equipment	2.1. Equipment is cleaned to manufacturer's, OH&S, hygiene and workplace requirements.
3. Follow recipe	3.1. Recipes are followed to prepare and produce value-added products to product specifications.
4. Select <i>ingredients</i> for formulation of value-added products	<p>4.1. Ingredients are selected in accordance with recipes, policy and practice, and <i>regulatory requirements</i>.</p> <p>4.2. Ingredients are weighed in accordance with recipe specifications and regulatory requirements.</p> <p>4.3. Ingredients are labelled according to workplace and regulatory requirements.</p>
5. Prepare meat, stuffings, seasonings and force meat for value-added products	<p>5.1. Meat is prepared according to recipes, policy and practice.</p> <p>5.2. Stuffings, seasonings and force meat are prepared in accordance with recipes, policy and practice.</p>
6. Prepare marinades, sauces, and glazes for value-added product	6.1. Marinades, sauces and glazes are prepared in accordance with recipes, policy and practice.
7. Mix ingredients	<p>7.1. Ingredients are weighed in accordance with recipe requirements.</p> <p>7.2. Ingredients are added to meat according to recipes, product specifications and regulatory requirements.</p> <p>7.3. Ingredients are blended to achieve product consistency according to recipes and product specifications.</p>
8. Produce value-added products	<p>8.1. Product is formulated according to product specifications.</p> <p>8.2. Product is presented according to product specifications and policy and procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
	8.3. Pastry types are used correctly to recipes and workplace requirements. 8.4. Meat is skewered according to recipes and workplace requirements.
9. Store products and ingredients	9.1. Product is stored according to workplace and regulatory requirements. 9.2. Ingredients are stored according to workplace and regulatory requirements. 9.3. Shelf life of products is identified and appropriate action taken. 9.4. Effects of ingredients on shelf life are identified and appropriate action taken.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- make adjustments to equipment when necessary according to manufacturer's, workplace and OH&S requirements
- *describe* shelf life of products, factors affecting shelf life and effects of different ingredients on shelf life
- *explain* the permissible use of additives and ingredients in value-added products
- identify suitable alternatives from existing stock where quantities of required ingredients are not available, as applicable
- work with team members to develop new value-added products
- identify sub-standard product and rectify appropriately
- label value-added products according to workplace and regulatory requirements
- provide advice to customers on ingredients in value-added products
- seek advice on new recipes and products from appropriate sources
- use *communication skills* appropriate to the task
- use *mathematical skills* as required for production of value-added products
- estimate measures to verify calculations

Required knowledge

REQUIRED SKILLS AND KNOWLEDGE

Knowledge of:

- regulatory requirements regarding use and storage of fruit and vegetables
- shelf life of products, factors affecting shelf life and effects of different ingredients on shelf life
- range of effects on the product and on consumer health of the use of incorrect and inadequate quantities of ingredients
- properties of correct blending
- purpose and use of processing equipment in the preparation of value-added products
- use and purpose of stuffings, seasoning and force meat in producing value-added products
- use and purposes of ingredients in producing value-added products
- quality requirements related to production of value-added products
- effect of various ingredients on product shelf life
- procedures for cleaning processing equipment
- workplace, OH&S and hygiene requirements related to producing value-added products

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time.

These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated over time and under typical operating conditions for the enterprise.

The candidate must be able to produce value-added meat products from a minimum of three species, using pastry, fresh produce, dried herbs and spices and marinades.

Where the candidate does not produce value-added products in their usual place of work they must complete the requirements of the unit in an alternative work placement or in a simulated environment.

Context of, and specific resources for assessment

Assessment must occur in the workplace under normal operating conditions or in a simulated environment.

Method of assessment

Recommended methods of assessment include:

- verified work log or diary
- workplace assignment
- workplace referee or third-party report of

EVIDENCE GUIDE	
	<p>performance over time.</p> <p>Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.</p>
Guidance information for assessment	A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<i>Value-added products</i> may include:	<ul style="list-style-type: none"> • beef wellington • fillet mignon • goldfield racks with camembert • pastry meat products • tornadoes (e.g. pork and apple) • veal cordon bleu.
<i>Workplace requirements</i> may include:	<ul style="list-style-type: none"> • enterprise-specific procedures and ethical standards • Standard Operating Procedures (SOPs) • work instructions.
<i>OH&S</i> requirements may include:	<ul style="list-style-type: none"> • enterprise OH&S policies, procedures and programs • OH&S legal requirements • Personal Protective Equipment (PPE) which may include: <ul style="list-style-type: none"> • coats and aprons

RANGE STATEMENT	
	<ul style="list-style-type: none"> • ear plugs or muffs • eye and facial protection • head-wear • lifting assistance • protective boot covers • protective hand and arm covering • protective head and hair covering • uniforms • waterproof clothing • work, safety or waterproof footwear • requirements set out in standards and codes of practice.
<p>Ingredients vary depending on the products and may include:</p>	<ul style="list-style-type: none"> • brines • fruit • glazes • marinades prepared from a recipe • meat • nuts • pastry (e.g. filo, shortcrust, puffed, flaky) • satays • sauces • skewers • sprinkles • stuffings prepared from a recipe • vegetables.
<p>Regulatory requirements may include:</p>	<ul style="list-style-type: none"> • Export Control Act • federal, state and territory regulations regarding meat processing and food handling • hygiene and sanitation requirements • relevant Australian Standards.
<p>Descriptions and explanations may:</p>	<ul style="list-style-type: none"> • be presented orally, in writing using standard formats or using a range of communications technology and media • include information from several sources • present information in diagrammatic, tabular, graphic or pictorial formats • require summaries of information for presentation to work colleagues • use workplace, mathematical and technical language.

RANGE STATEMENT	
<i>Communication skills</i> may include:	<ul style="list-style-type: none"> • interacting with people from a range of cultural, social and ethnic backgrounds and with colleagues, superiors, customers, clients and external parties • speaking clearly and directly • the use of communication technology • own work and the wider work area • reading and interpreting workplace documentation.
<i>Mathematical skills</i> may include:	<ul style="list-style-type: none"> • estimating and calculating • the use of calculators and computer software packages • the use of familiar and unfamiliar complex formula • product formulations and specifications • interpreting and drawing conclusions from a range of simple and complex mathematical tables, charts, bar graphs and pie charts • monitoring, adjusting and calibrating formula, specifications, outputs and equipment • synthesis and analysis of mathematical information from more than one source.

Unit Sector(s)

Unit sector	
--------------------	--

Co-requisite units

Co-requisite units	

Competency field

Competency field	
------------------	--

PMASUP420B Minimise environmental impact of process

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This competency covers minimising waste and environmental threats from a plant and/or a process. It covers all resources used and products made by the plant, and is performed by more experienced operators who might be expected to develop and implement improvements to processes within the plant. This unit may be performed individually or as part of a team.</p> <p>This competency also applies to capital projects, as well as improvements brought about by changes in work practices and procedures</p>
------------------------	---

Application of the Unit

Application of the unit	<p>In this competency, an operator would develop practices or procedures for:</p> <ul style="list-style-type: none"> • conserving resources • minimising pollution • minimising waste. <p>This requires the operator to have a good understanding of the resources used by the plant, the nature and source of pollutants and the waste materials produced by the plant. It also requires the operator to understand the impact of using resources, and the effect pollutants and waste can have on the local environment.</p> <p>When developing a process or practice, the operator would identify which resource, pollutant or waste product that if reduced would give the most benefit. After developing procedures to conserve resources or minimise pollution/waste produced by the plant, the operator would then document the procedures to implement the changes.</p>
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop resource conservation practices and/or procedures.	1.1. Identify the nature of resources used in the plant/process 1.2. Determine the primary source of these resources 1.3. Describe the impact of the depletion of these resources on the environment and society 1.4. Determine which resource(s) will yield a greater benefit from their conservation 1.5. Develop methods to reduce the consumption of these resources 1.6. Complete required documentation to implement change
2. Develop pollution minimisation practices and/or procedures.	2.1. Identify the nature of pollutants produced by the plant/process 2.2. Determine the source(s) of these pollutants within the plant/process 2.3. Describe the impact of these pollutants on the environment and society 2.4. Determine which pollutant(s) will yield a greater benefit from their reduction 2.5. Develop methods to reduce the production of this pollutant 2.6. Complete required documentation to implement change.
3. Develop waste minimisation practices and/or procedures.	3.1. Identify the nature of wastes produced by the plant/process 3.2. Determine the source(s) of these wastes within the plant/process 3.3. Describe the impact of these wastes on the environment and society 3.4. Determine which waste(s) will yield a greater benefit from their reduction 3.5. Develop methods to reduce the production of this waste 3.6. Complete required documentation to implement change.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills

Competence to also include the ability to apply and explain:

- nature and severity of potential environmental hazards caused by the plant/process
- sensitivity of local environment to these environmental threats
- pathways of entry to the environment from the plant
- regulatory requirements such as environment protection regulations, OHS, HAZCHEM, duty of care, dangerous goods
- external licensing requirements such as EPA, water authorities, local councils
- enterprise procedures and practices.

Required knowledge

Knowledge and understanding of the control of environmental incident process and the importance of critical parameters enough to minimise waste and environmental threats from a plant and/or a process within an organisation.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment of this unit should include demonstrated competence on actual plant and equipment in a work environment. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.

Assessment of this unit may be best achieved with a suitable project. This will minimise possible impact on the environment caused by the process or some aspect of the process. Such a project may be regarded as adequate provided it meets all the Performance Criteria of at least one Element. It is not necessary to cover all elements.

This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of what-if scenarios both on the plant (during demonstration of normal operations and walk-throughs of abnormal operations) and off the plant.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in implementing appropriate corrective action. The emphasis should be on the ability to stay out of trouble rather than on recovery from a disaster.

Consistent performance should be demonstrated. In particular look to see that:

- procedures are developed to reduce the consumption of resources, or to minimise pollution and/or waste products
- appropriate documentation is completed to implement changes
- the greatest yield is achieved by appropriate selection of type of resource usage, type of

EVIDENCE GUIDE	
	<p>pollutant or waste product.</p> <p>These aspects may be best assessed using a range of scenarios/case studies/what-ifs as the stimulus with a walk-through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations which may have been generated from the past incident history of the plant, incidents on similar plants around the world, hazard analysis activities and similar sources.</p>
Context of and specific resources for assessment	<p>Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios/case studies/what-ifs will be required as will a bank of questions which will be used to probe the reasoning behind the observable actions.</p>
Method of assessment	<p>In all plants it may be appropriate to assess this unit concurrently with relevant teamwork and communication units. Consider co-assessment with:</p> <ul style="list-style-type: none"> • Competency units relevant to the type of process equipment. <p>In a major hazard facility, it may be appropriate to assess this unit concurrently with OHS units.</p>
Guidance information for assessment	<p>Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.</p>

Range Statement

RANGE STATEMENT	
<p>The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.</p>	
Codes of practice/ standards	Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.
Context	<p>This competency is performed by more experienced operators and may be performed individually or as part of a team. It includes the following indicative functions:</p> <ul style="list-style-type: none"> • examining plant records • examining operating procedures and practices • liaising with a range of internal people • modifying/updating standard operating procedures to 'lock in' any changes. <p>Typical objectives will include:</p> <ul style="list-style-type: none"> • minimisation of waste • maximisation of product yield from raw materials • reduction in volume of pollutants made • reduction in concentration/intensity of pollutants made • reduction in emissions. <p>All operations are performed in accordance with standard procedures and policies.</p>
Health, safety and environment (HSE)	All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Unit Sector(s)

Unit sector	Support/generic
--------------------	-----------------

Competency field

Competency field

Co-requisite units

Co-requisite units

PMBPROD211B Operate blow moulding equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the operation of blow moulding equipment and the resolving of routine problems to procedure.

Application of the Unit

Application of this unit

This competency applies to operators who are required to undertake the routine operation of blow moulding equipment. This competency is typically performed by operators working either independently or as part of a work team.

The operator:

- takes product off the machine,
- checks product for quality and conformity to specifications
- checks raw material feed
- notices any problems and takes required action (e.g.reporting)
- deals with non-conforming products, waste and scrap
- completes logs and reports.

They may record key variables such as machine conditions and production rate and reasons for interruptions.

This unit does not include:

- packing of product - see *MSASUP204A Pack products or materials*
- finishing of product - see *PMBFIN201 Finish products and components*.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Check work requirements.	1.1 Identify work requirements from production plan or request. 1.2 Check product, materials and equipment meet requirements for job(s). 1.3 Recognise requirements which may not be in accordance with usual practice. 1.4 Ask questions of appropriate person to confirm unusual practice. 1.5 Ensure housekeeping is to requirements. 1.6 Identify hazards associated with the job and take appropriate action. 1.7 Perform other pre-operational checks in accordance with procedures.
2. Start up blow moulding equipment to procedures.	2.1 Conduct pre-start checks. 2.2 Start up equipment safely and 'dry run' to warm hydraulics and components to operating temperature before production, as required. 2.3 Check condition of equipment and introduce raw materials as required.
3. Operate blow moulding equipment to procedures.	3.1 Check process is operating within required limits. 3.2 Check product is in specification and to required quality standard. 3.3 Ensure product is consistently ready for next operation. 3.4 Maintain supply of material(s) as required. 3.5 Complete logs and records as required. 3.6 Collect and segregate scrap, trim and other materials as required. 3.7 Keep equipment and work area clean . 3.8 Pause machine cycle and perform emergency stop, as required.
4. Respond to routine problems to procedures.	4.1 Identify likely faults that occur during the operation. 4.2 Identify and take action on causes of routine faults in accordance with procedures. 4.3 Make sure appropriate records and log books of

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
	equipment operations are maintained to meet procedures. 4.4 Identify non-routine problems and report to designated person.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Application of an operational knowledge of the materials, equipment and process sufficient to recognise out of specification products, process problems and materials faults. For example, the product may not be fully inflated, leading to undersized and malformed product. Blow pressure may be insufficient or the compressed air supply may be partially blocked.

Knowledge of organisation procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards. For example action must only be taken if the parison mass varies by more than 2 grams.

Application of the knowledge of managing risks using the hierarchy of controls applied to the blow moulding process. Application of approved hazard control, safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup.

Knowledge of and skills in the operation of blow moulding equipment and main components sufficient for consistent production of quality products including:

- production workflow sequences and materials demand
- the reasons for checking process control panels and reporting readings which are outside of normal range of process variability
- accurately monitoring equipment operation and product quality
- purpose and requirements of 'dry running' before starting production
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- processing behaviour of polymers and the role of additives
- waste management and knowing the importance of reusing non-conforming products wherever possible
- correct selection and use of equipment, materials, processes and procedures
- explain the effect of unauthorised or emergency shutdown in relation to safety and production requirements
- identify factors which may affect product quality or production output and appropriate remedies.

Competence also includes the ability to:

- plan own work, including predicting consequences and identifying improvements
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- identify and describe own role and role of others involved directly in the blow moulding process.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets, procedures, basic machine control panels, material labels and safety information as provided to operators.

Writing is required to the level of completing workplace forms.

Basic numeracy is required, (eg to determine that two 25 kg bags are needed for a requirement for 50 kg).

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- apply the required skills and knowledge to operate a blow moulding machine
- apply approved procedures.

Consistent performance should be demonstrated. For example, look to see that blow moulding production standards are met consistently.

Assessment method and context

Assessment will occur on an industrial blow moulding machine(s) equipment and will be undertaken in a work-like environment.

Competence in this unit may be assessed:

- by using an appropriate, industrial blow moulding machine requiring demonstration of operation and emergency stop procedures
- in a situation allowing for the generation of evidence of the ability to respond to problems
- by using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required. Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to all blow moulding operations within the plastics and rubber sectors. It includes the operation of all relevant additional equipment where that equipment is integral to the blow moulding process.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- bottom blow, top blow, needle blow, tail to tail blow, parison
- pre-blow and pre-squeeze, parison stretching and parison orientation type machines
- ancillary equipment (such as chillers/cooling towers, die heating equipment, hopper driers, mixing hoppers, dehumidifying driers, air compressors, dosing machines, colour blending equipment and conveyors)
- hand tools used in the blow moulding process
- material loading equipment used for loading of raw materials
- relevant personal protective equipment.

Hazards

Typical hazards include:

- spills
- dusts/vapours
- slip and fall (such as due to spilt granules)
- temperature (such as due to heated moulds)
- hazardous substances (including decomposing polymer during start up and shut down)
- moving equipment (such as moving moulds, robots and ancillary equipment)
- manual handling hazards.

Problems

'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems'. Typical process and product problems may include:

- equipment malfunction
- variations in temperature, pressure, speed, inflation
- variations in materials or contamination of materials
- incorrect quantity of materials/additives
- die damage
- routine blow moulding faults (eg wall thinning, holes, poor surface finish, warping, poor colour dispersion, ejection damage, colour contamination, black spots and other defects)
- machine malfunction
- die/tooling problems.

-

Unit Sector(s)

Not applicable.

PMBPROD270B Operate injection blow moulding equipment

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers the operation of injection blow moulding equipment and the resolving of routine problems to procedure.

This competency is typically performed by operators working either independently or as part of a work team.

Application of the Unit

Application of this unit

This competency applies to operators who are required to undertake the routine operation of injection blow moulding equipment. The key factors are the making of products to meet quality standards and workplace requirements.

It includes:

- checking job sheets for work requirements
- recognising hazards and taking appropriate action
- starting up and shutting down injection blow moulding equipment
- monitoring injection blow moulding equipment operation and reporting process variations
- checking product for quality and conformity to specifications
- discarding non-conforming products, ensuring re-use where possible
- identifying and taking action on routine process problems
- completing logs and reports.
-

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance Criteria describe the required performance needed to demonstrate achievement of the Element. Assessment of performance is to be consistent with the Evidence Guide.
1. Check work requirements.	1.1 Identify work requirements from procedures. 1.2 Identify product, materials and equipment requirements for job(s). 1.3 Recognise hazards and take appropriate action. 1.4 Check with supervisor/appropriate person if requirements are not in accordance with usual practice.
2. Conduct pre-start checks as required.	2.1 Check safety gates and guards are in position and working. 2.2 Check raw materials are correct. 2.3 Undertake other pre-start checks to procedures. 2.4 Start up equipment safely and 'dry run' to warm hydraulics and components to operating temperature before production, as required.
3. Operate equipment to procedures.	3.1 Check condition of equipment and introduce raw materials as required. 3.2 Check product/process is within required limits. 3.3 Collect products and store as required. 3.4 Check product is in specification/to required quality standard. 3.5 Maintain supply of material(s) as required. 3.6 Complete logs and records when required. 3.7 Collect and reprocess/discard scrap/trim and other materials. 3.8 Clean up equipment and work area. 3.9 Pause equipment, or stop equipment in an emergency, as required.
4. Respond to routine problems to procedures.	4.1 Recognise known faults that occur during the operation. 4.2 Identify and take action on causes of routine faults. 4.3 Log problems as required. 4.4 Identify non-routine process and quality problems and take appropriate action.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

Application of knowledge of the materials, equipment and process sufficient to recognise out of specification products, process problems and materials faults.

Knowledge of organization procedures and relevant regulatory requirements along with the ability to implement them within appropriate time constraints and work standards.

Application of the knowledge of managing risks using the hierarchy of controls applied to the injection blow moulding process. Application of approved hazard control, safety procedures and the use of PPE in relation to handling materials, equipment operation and cleanup.

Knowledge of and skills in the operation of injection blow moulding equipment and main components sufficient for consistent production of quality products including:

- production workflow sequences and materials demand
- the reasons for checking process control panels and reporting readings which are outside of normal range of process variability
- accurately monitoring equipment operation and product quality
- the potential effects of variations in raw materials and equipment operation in relation to quality of product
- processing behaviour of polymers and the role of additives
- waste management and knowing the importance of reusing non-conforming products wherever possible
- correct selection and use of equipment, materials, processes and procedures
- explain the effect of unauthorised or emergency shutdown in relation to safety and production requirements
- identify factors which may affect product quality or production output and appropriate remedies.

Competence also includes the ability to:

- plan own work, including predicting consequences and identifying improvements
- identify when the operator is able to rectify faults, when assistance is required and who is the appropriate source for assistance
- identify and describe own role and role of others involved directly in the injection moulding process.

Language, literacy and numeracy requirements

This unit requires the ability to read and interpret typical product specifications, job sheets, procedures, material labels and safety information as provided to operators.

Writing is required to the level of completing workplace forms.

Basic numeracy is required, eg to determine that two 25 kg bags are needed for a requirement for 50 kg.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required skills and knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is demonstrated in the knowledge and skills defined in this unit. These may include the ability to:

- recognise the importance of material properties and qualities
- apply approved procedures
- take appropriate action to resolve faults or report faults to appropriate personnel
- explain and implement emergency shutdown procedures.

Consistent performance should be demonstrated. For example, look to see that:

- injection blow moulding production standards are met consistently upstream and downstream communication is timely and effective operating procedures and work instructions are read and interpreted correctly
- problems are identified and appropriate action is taken (ie the problem is fixed or reported)
- all safety procedures are followed.

Assessment method and context

Assessment will occur on industrial blow moulding equipment in a work-like environment.

Competence in this unit may be assessed:

- by using an appropriate, industrial injection blow moulding machine requiring demonstration of operation and emergency stop procedures
- in a situation allowing for the generation of evidence of the ability to respond to problems
 - by using a suitable simulation and/or a range of case studies/scenarios
 - through a combination of these techniques.

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts. Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used.

Context

This competency applies to all injection blow moulding operations within the plastics and rubber sectors. It includes the operation of all relevant additional equipment where that equipment is integral to the injection blow moulding process.

Procedures

All operations are performed in accordance with procedures.

Procedures include all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- electrical, pneumatic, mechanical, electromechanical and hydraulic injection blow moulding machines and components such as base, frame, feed hoppers and material supply mechanisms, barrel and screw plastification unit, injection blow units, die/ mould tool additional equipment, including chillers/cooling towers, die heating equipment, hopper driers, mixing hoppers, dehumidifying driers, air compressors, dosing machines, colour blending equipment and conveyors
- hand tools used in the injection blow moulding process
- material loading equipment used for loading of raw materials
- relevant personal protective equipment.

Hazards

Typical hazards include:

- spills
- dusts/vapours
- slip and fall, particularly due to spilt granules
- temperature
- hazardous substances
- moving equipment
- manual handling hazards.

Problems

'Respond to routine problems' means 'apply known solutions to a limited range of predictable problems'. Typical process and product problems may include:

- equipment malfunction
- variations in temperature, pressure, speed, inflation
- variations in materials or contamination of materials
- mould damage

- routine injection blow moulding faults - wall thinning, holes, poor surface finish, warping, poor colour dispersion, ejection damage, colour contamination, black spots and other defects
- mould/tooling problems.

Variables

Key variables to be monitored include:

- operating temperatures
- speed
- cycle time
- output rate
- concentration or dispersion of colour
- product weight
- product wall thickness
- product integrity and general conformance to specification/sample.
-

Unit Sector(s)

Not applicable.

PMBTECH406A Diagnose production equipment problems

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This competency covers diagnosing the causes of products faults and problems arising from the equipment/plant. These problems may be caused by inappropriate process conditions and/or equipment faults. The competency does not include the rectification of such faults or equipment diagnostic skills more appropriate to maintenance tradespersons, but does include diagnosis to a sufficient level so that identification of faults as equipment or process based can be made and appropriate directions can be given to rectify the problem.

Application of the Unit

Application of this unit

This competency applies to technicians who are required to examine products which have faults, even though they may not be rejects, and determine the likely causes of such faults. The technician might also be required to examine production faults such as where the process as a whole is not performing adequately. The technician would then further investigate the likely equipment, plant and/or process causes of the faults and isolate the most probable cause and recommend the solution. They may then monitor the implementation of the solution and check that the fault has been fixed.

It includes:

- examining products
- identifying faults
- identifying fault causes
- recommending solutions to faults
- checking the fault has been rectified.

While this unit does not require 'hands on competence' for the operation of process equipment, it does require an understanding of the principles of operation of the equipment and the impact of process conditions and equipment faults or changes on the product characteristics/properties. It also requires an understanding of the quality/ inspection/testing regime and the results of this regime and how process conditions and equipment faults or changes impact these results of this regime.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisites

This unit has **no** prerequisites.

Employability Skills Information

Employability Skills

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes of a unit of competency	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT ELEMENT	PERFORMANCE CRITERIA Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Identify faults in products/production.	1.1 Examine products/production process. 1.2 Identify faults. 1.3 Categorise faults according to type/likely cause. 1.4 Prioritise faults for action.
2. Determine most probable possible cause(s) of fault	2.1 Analyse fault to determine possible causes. 2.2 Investigate possible causes to eliminate less probable causes. 2.3 Shortlist probable causes. 2.4 Check hypothesis of cause(s) is supported by the data available. 2.5 Identify most probable cause.
3. Implement solution to fault	3.1 Develop recommended solution to fault. 3.2 Check HSE implications of solution and modify solution as appropriate. 3.3 Communicate this recommendation as appropriate. 3.4 Check recommendation has been understood and can be implemented. 3.5 Check all hazard controls are in place. 3.6 Monitor progress of implementation. 3.7 Modify recommended solution as required.
4. Check fault solution has worked.	4.1 Monitor product/process for fault. 4.2 Monitor HSE impacts of changes. 4.3 Repeat analysis and solution process if required. 4.4 Update records and procedures to reflect successful solution.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level required for this unit.

This competency requires a detailed understanding of:

- how the process/equipment works
- how raw material changes into product through the process/equipment
- impacts of different process conditions on the product
- impacts of different equipment settings/components on the product
- impacts of equipment failure/change/variation on the product
- product faults and their categories according to causes
- causes of all possible product faults due to process/equipment problems.

Note this is not primarily about faults caused by things outside the process/equipment (eg unspecified changes in feed/raw materials), but the possibility of this cause for a fault should be included as required knowledge.

Language, literacy and numeracy requirements

This unit requires the ability to communicate to operators, tradespeople and other technical experts about technical issues.

Reading is required to the level of being able to interpret and apply procedures, technical manuals and manufacturer manuals. Writing is also required to be able to write maintenance and similar requests/orders, update procedures and write equipment/process condition specifications.

Numeracy is required to interpret test data, technical specifications, instrument readings and measurements. Some calculation may be involved in developing and implementing solutions.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Overview of assessment

This competency requires the diagnosis of real product faults and the development and implementation of solutions to these faults. The diagnosis of a number of faults with different types of causes should be required.

A holistic approach should be taken to the assessment.

Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria and skills and knowledge.

Critical aspects

It is essential that competence is demonstrated in the knowledge and skills defined in this unit.

These may include the ability to:

- recognise defective product
- isolate one or two most likely causes, and justify the selection of those causes
- devise a permanent solution to the problem and justify that solution
- check that the solution works
- work with all the required people to make it happen.

Consistent performance should be demonstrated. For example, look to see that:

- defects with different root causes are analysed
- defects with both process condition and equipment problem causes are solved
- defects across the applicable range of products and processes are solved

Context of assessment

Competence in this unit may be assessed:

- on a processing plant as a routine part of the job
- as special projects on a processing plant
- using a suitable simulation and/or a range of case studies/scenarios
- through a combination of these techniques.

Method of assessment

In all cases it is expected that practical assessment will be combined with targeted questioning to assess the underpinning knowledge and theoretical assessment will be combined with appropriate practical/simulation or similar assessment. Assessors need to be aware of any cultural issues that may affect responses to questions.

Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Specific resources for assessment

This section should be read in conjunction with the Range Statement for this unit of competency. Resources required include suitable access to an operating plant or equipment that allows for appropriate and realistic simulation. A bank of case studies/scenarios and questions will also be required to the extent that they form part of the assessment method. Questioning may take place either in the workplace, or in an adjacent, quiet facility such as an office or lunchroom. No other special resources are required.

Access must be provided to appropriate learning and/or assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Where reference is made to industry codes of practice and/or Australian/international standards, the latest version must be used.

Context

This competency applies to technicians who have a role of problem solving product faults as it relates specifically to equipment/process problems. While the technician will take the lead role in this activity, they will need to liaise with a range of people at all levels in the organisation to obtain information and to implement the solution.

This diagnosis and improvement may take place as a result of a problem where the fault level is causing reject product, or it may occur as part of continuous improvement, or a kaizen blitz or other situation where the products are not faulty, but are being improved.

Fault

A fault is any defect in a product, whether it causes the product to be defective or not.

Typical faults may include:

- colour variation (non-uniform, not to standard hue/intensity/opacity)
- surface blemishes (specs, marks)
- surface finish (gloss level, uneven)
- size/shape (distorted, wrong, variable)
- within specification, but highly variable, forms patterns etc (ie has 'assignable cause')
- strength/stiffness/physical properties (too high/low, variable, uneven)
- chemical properties
- physical/mechanical properties
- biological/biochemical/microbiological properties.

Examine

Examination of products/process may include:

- visual examination
- examination of product quality or other records
- examination of inspection records (if used)
- examination of test results (routine or otherwise)
- specific examination testing undertaken as part of a product improvement activity.

Possible causes

Possible causes include all feasible causes of the problem, before checking to eliminate some.

Investigate

Investigating possible causes includes:

- talking with operators and others
- checking machine histories for prevailing process conditions
- checking current process/equipment conditions
- carrying out small tests to determine the likelihood of a causal link between a condition and a fault.

Health Safety and Environment (HSE)

All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and HSE requirements, the HSE requirements take precedence.

Procedures

All operations are performed in accordance with procedures.

Procedures means all relevant workplace procedures, work instructions, temporary instructions and relevant industry and government codes and standards.

Tools and equipment

This competency includes use of equipment and tools such as:

- laboratory test facilities for the product (although the conduct of tests is not part of this unit)
- equipment test instruments for checking the condition of plant (although the conduct of these tests may not be part of this unit).

Process/equipment conditions

Process/equipment conditions may include:

- settings such as temperature, pressure
- rates such as feed rate, flow rate
- setting and adjustment of equipment parts
- worn and broken equipment parts.
-

Unit Sector(s)

Not applicable.

RIICBM305A Install pre-cast concrete bridge decks

Modification History

Not applicable.

Unit Descriptor

This unit covers the installation of pre-cast concrete bridge decks in the civil construction industry. It includes planning and preparing, installing bearings, installing concrete bridge decks, fixing bridge fittings, and cleaning up. Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:

- Civil construction

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Obtain, confirm and apply work instructions, including plans, specifications, quality requirements and operational details to the allotted task 1.3. Obtain and confirm <i>safety requirements</i> from the <i>site</i> safety plan and organisational policies and procedures, and apply to the allotted task 1.4. Identify, obtain and implement <i>signage requirements</i> from the project <i>traffic</i> management plan 1.5. Select <i>plant, tools and equipment</i> to carry out tasks consistent with the requirements of the job, check for serviceability and rectify or report any faults 1.6. Identify <i>environmental protection requirements</i> from the project environmental management plan, and confirm and apply to the allotted task
2. Install bearings	2.1. Determine <i>bearing types</i> and position from project drawings and specifications 2.2. Check bearing dimensions and material for quality against specifications 2.3. Install bearings as required by project drawings 2.4. Identify locating brackets/bolts and install in preparation for placement of girders as required
3. Install concrete bridge deck	3.1. Prepare <i>deck</i> components for grouting prior to placement in accordance with deck design and specifications 3.2. Place deck components 3.3. Carry out and complete pre-fabricated concrete decking grouting 3.4. Insert and tension pre-fabricated concrete decking transverse stressing bar as specified 3.5. Grout transverse stressing bar to specifications

	<p>3.6. Grout anchor bolts</p> <p>3.7. Place and specify deck joints of pre-fabricated decking and scuppers</p>
4. Fix bridge fittings	<p>4.1. Fit posts and bridge rails as per project drawings and specifications</p> <p>4.2. Assemble pre-fabricated stairs and install to specifications where required</p>
5. Clean up	<p>5.1. Clear work area and dispose of or recycle <i>materials</i> in accordance with project environmental management plan</p> <p>5.2. Clean, check, maintain and store plant, tools and equipment</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following, as required to install pre-cast concrete bridge decks:

- apply legislative, organisation and site requirements and procedures for the installation of pre-cast concrete bridge decks
- organise work activities
- select and use relevant tools and equipment safely
- identify and report on hazards related to the worksite and work activity
- communicate effectively to receive and clarify work instructions

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following, as required to install pre-cast concrete bridge decks:

- site and equipment safety requirements
- bridge construction and sequencing
- pre-cast concrete bridge decks and installation
- bearing types and installation
- safe lifting techniques
- safe working procedures, working at heights and over water
- processes for interpreting engineering drawings
- equipment types, characteristics, technical capabilities and limitations
- site isolation and traffic control responsibilities and authorities
- materials safety data sheets and materials handling methods
- project quality requirements
- civil construction terminology
- JSAs/safe work method statements

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for installing pre-cast concrete bridge decks • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of pre-cast concrete bridge deck installation • working with others to undertake and complete the installation of pre-cast concrete bridge decks that meets all of the required outcomes • consistent timely completion of pre-cast concrete bridge deck installation that safely, effectively and efficiently meets the required outcomes • installation of pre-cast concrete deck units including installation of transverse stressing bars and bearings on a multi-span bridge with a minimum length of twenty metres to specifications
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites

	<p>may differ due to the site circumstances.</p> <ul style="list-style-type: none"> • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Where applicable, physical resources should include equipment modified for people with disabilities. Access must be provided to appropriate learning and/or assessment support when required.
<p>Method of assessment</p>	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistent achievement of required outcomes • first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • working with others to undertake and complete the installation of pre-cast concrete bridge decks
<p>Guidance information for assessment</p>	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisational and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Safety requirements may include:</p>	<ul style="list-style-type: none"> • OHS requirements in accordance with state or territory legislation and regulations, organisational safety policies and procedures, and project safety plan, including protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances • safe parking practices including ensuring access ways are clear, equipment/machinery is away from overhangs and refuelling sites, safe distance are kept from excavations, and areas secured from unauthorised access or movement • safe operating procedures including recognising and preventing hazards associated with uneven/unstable terrain, trees, pits, poles, trip hazards, dirt mounds, overhead service lines, bridges, surrounding buildings, obstructions, structures, facilities, dangerous materials, recently filled trenches, other machines, personnel, traffic control, working in proximity to others, worksite visitors and the public • recognising hazards and risks including uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials • emergency procedures related to equipment

	operation including emergency shutdown and stopping, extinguishing equipment fires, organisational First Aid requirements and evacuation
Site may include:	<ul style="list-style-type: none"> • bridges • piers • wharves • jetties
Signage requirements may include:	<ul style="list-style-type: none"> • site safety signage • temporary signage for the benefit of motorists and pedestrians • barricades • traffic conditions signage
Traffic may include:	<ul style="list-style-type: none"> • congested urban environments • low traffic rural areas • off-road un-trafficked areas • buildings • parking sites • pedestrian areas
Plant, tools and equipment may include:	<ul style="list-style-type: none"> • fall arrestors • tag lines • drifts • spanners • pneumatic wrenches and drills • compressors and hoses • tape measures • marking equipment • ladders • winches • lifting equipment • power saws • slings • cranes • scaffolding
Environmental protection requirements may include:	<ul style="list-style-type: none"> • organisational/project environmental management plans • waste management • water quality protection • noise • vibration • dust and clean up management

Bearing types may include:	<ul style="list-style-type: none"> • elastomeric • mortar pad
Deck may include:	<ul style="list-style-type: none"> • bridge rails • pre-cast kerbing • stairs • posts • hand rails • deck joints
Materials may include:	<ul style="list-style-type: none"> • pre-cast concrete bridge deck units • bearings • bridge rails • bridge joints • mortar • epoxy

Unit Sector(s)

Construction and Maintenance (General)

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

RIIHAN305A Operate a gantry or overhead crane

Modification History

Not applicable.

Unit Descriptor

This unit covers the operation of a gantry or overhead cranes in the resources and infrastructure industries. It includes planning and preparing, operating the crane and carrying out operator maintenance. The work described in this unit relates to the National Occupational Health and Safety Certificate Standards for Users and Operators of Industrial Equipment (NOHSC: 1006).

Application of the Unit

This unit is appropriate for those working in an operational role at worksites within:

- Civil construction
- Coal mining
- Drilling
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for operations	1.1. Access, interpret and apply compliance documentation relevant to the work activity 1.2. Access, interpret and confirm work requirements prior to proceeding 1.3. Access and apply safety information and procedures throughout the work 1.4. Prepare site in accordance with AS2550, legislation and manufacturer/site requirements 1.5. Communicate with others to coordinate activities at the site prior to commencement of and throughout operations
2. Operate crane	2.1. Prepare load for lift in accordance with crane limitations and rigging requirements 2.2. Perform pre-start, start-up, park-up and shutdown procedures in accordance with relevant Australian standards, manufacturer's and/or site requirements 2.3. Confirm the work area hazards are removed or controlled prior to commencing the lift 2.4. Interpret signals in accordance with AS2550 2.5. Operate controls to lift, transfer and lower loads in accordance with manufacturer's instructions and site procedures 2.6. Monitor lift operations to ensure compliance with equipment limitations
3. Perform crane operator maintenance	3.1. Inspect crane for faults in accordance with manufacturer's instructions and site requirements 3.2. Perform routine operational servicing, lubrication and housekeeping tasks in accordance with manufacturer's instructions and site procedures 3.3. Process records in accordance with site requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes the ability to carry out the following as required to operate a gantry or overhead crane:

- apply legislative, organisation and site requirements and procedures for the operation of a gantry or overhead crane
- calculate volume, weights
- access interpret and apply technical crane information
- maintain crane equipment records
- use hand tools
- apply fault finding techniques with cranes
- comply with environmental requirements
- dispose of environmentally sensitive fluids and materials

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly for its application in the various circumstances in which this unit may be used. This includes knowledge of the following as required to operate a gantry or overhead crane:

- Australian standards related to cranes/lifting
- site and equipment safety requirements
- crane equipment characteristics, technical capabilities and limitations
- crane operational procedures
- crane maintenance systems and procedures
- basic rigging and slinging requirements
- hand and whistle signals
- site environmental requirements and constraints related to cranes
- Hazchem relevant to overhead cranes

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for the operation of a gantry or overhead crane • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of the operation of a gantry or overhead crane • working with others to undertake and complete the operation of a gantry or overhead crane that meets all of the required outcomes • consistent timely completion of gantry or overhead crane operations that safely, effectively and efficiently meet the required outcomes
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those

	<p>required on the job.</p> <ul style="list-style-type: none"> • Customisation of assessment and delivery environment should sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Where applicable, physical resources should include equipment modified for people with disabilities. Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistent achievement of required outcomes • first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • working with others to undertake and complete the operation of a gantry or overhead crane
Guidance information for assessment	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Work requirements may include:</p>	<ul style="list-style-type: none"> • shift briefings • handover details • work orders • crane equipment to be used • nature and scope of tasks • details of load chart/factors • achievement targets • working conditions • site lighting arrangements • defects on equipment • hazards and potential hazards • coordination requirements
<p>Safety information and procedures may include:</p>	<ul style="list-style-type: none"> • relevant legislation and regulations • relevant Australian standards • management plans • relevant OHS policy • relevant code of practice • manufacturer's instructions • safe working procedures • control and safety of travelling speed • selection and observance of safe working levels and angles • boarding and disembarking procedures • communications and signalling procedures
<p>Prepare site may include:</p>	<ul style="list-style-type: none"> • hazard identification and control • identification of load

	<ul style="list-style-type: none"> • identification and selection of lifting equipment • inspection and certification of lifting equipment • management of permits and tags
Australian standards may include:	<ul style="list-style-type: none"> • AS2550 for cranes, hoists and winches • cranes and state based legislation and regulations • any relevant legislation
Hazards may include:	<ul style="list-style-type: none"> • environment • people • other equipment • dangerous materials • facilities
Signals may include:	<ul style="list-style-type: none"> • verbal • hand signals to Australian standards • whistles/hooters to Australian standards • two-way radio/telephones • light signals to Australian standards
Records may include:	<ul style="list-style-type: none"> • maintenance records • handover records • records of breaks • log books

Unit Sector(s)

Load Handling

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

RIIMPO319A Conduct backhoe/loader operations

Modification History

Not applicable.

Unit Descriptor

This unit covers the conducting backhoe/loader operations in the civil construction industry. It includes: planning and preparing; conducting machine pre-operational checks; operating backhoe/ loaders; lifting, carrying and placing materials; selecting, removing and fitting attachments; relocating the backhoe/ loaders; carrying out machine operator maintenance; and cleaning up.

Application of the Unit

This unit is appropriate for those working in mobile plant operator roles, at worksites within:

- Civil construction

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare	1.1. Access, interpret and apply compliance documentation relevant to conduct backhoe/loader tasks 1.2. Obtain, confirm and apply work instructions to the allotted task 1.3. Obtain, confirm and apply safety requirements to the allotted task 1.4. Identify, obtain and implement signage requirements from the project traffic management plan 1.5. Select plant, tools and equipment to carry out tasks that are consistent with the requirements of the job, check them for serviceability and rectify or report any faults 1.6. Identify, confirm and apply environmental protection requirements from the project environmental management plan, to the allotted task
2. Conduct machine pre-operational checks	2.1. Carry out pre-start, start-up, park and shutdown procedures 2.2. Check machine controls and functions, including implements or other attachments, brakes and manoeuvrability for serviceability and rectify or report any faults
3. Operate backhoe/ loader	3.1. Identify site hazards associated with backhoe/loader operations and use safe operating techniques to minimise risk 3.2. Identify and apply operating techniques for backhoe/loader to achieve optimum output in accordance with design specifications while achieving specified tolerances 3.3. Operate machine to work instructions
4. Lift, carry and place materials	4.1. Conduct communication practices associated with transportation and lifting of materials 4.2. Select and attach slings and lifting gear in accordance with safe working load requirements 4.3. Establish weight of load

	<p>4.4. Position and locate machinery to ensure stability to effectively shift materials according to job specifications</p> <p>4.5. Shift load safely and effectively</p> <p>4.6. Move load in accordance with conventional hand and audible signals</p>
5. Select, remove and fit attachments	<p>5.1. Select attachment for the task</p> <p>5.2. Remove and fit attachment</p> <p>5.3. Test attachment to ensure correct fitting and operation</p> <p>5.4. Use attachment in accordance with recommendations and design limits</p> <p>5.5. Clean and store removed attachments in designated location</p>
6. Relocate the backhoe/ loader	<p>6.1. Move backhoe/loader safely between worksites, observing relevant codes and traffic management requirements</p> <p>6.2. Prepare backhoe/loader for relocation</p>
7. Carry out machine operator maintenance	<p>7.1. Park safely, shutdown and prepare machine for maintenance</p> <p>7.2. Conduct inspection and fault finding</p> <p>7.3. Remove, replace safely and effectively defective parts</p> <p>7.4. Carry out regular programmed maintenance tasks</p>
8. Clean up	<p>8.1. Clear work area and dispose of or recycle materials in accordance with project environmental management plan</p> <p>8.2. Clean, check, maintain and store plant, tools and equipment</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to conduct backhoe/loader operations:

- apply legislative, organisation and site requirements and procedures
- apply site and equipment safety requirements
- apply techniques for calculating safe working loads
- apply backhoe/loader techniques related to essential tasks
- interpret drawings and sketches
- apply operational, maintenance and basic diagnostic procedures
- apply site isolation and traffic control responsibilities and authorities
- interpret materials safety data sheet and materials handling methods
- apply project quality requirements
- use civil construction terminology
- apply methods of changing machine attachments
- apply safe operating techniques in all terrain
- carry out basic earthworks calculations
- apply levelling techniques
- interpret JSA's/Safe work method statement

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to conduct backhoe/loader operations:

- backhoe/loader types, characteristics, technical capabilities and limitations
- basic principles of soil technology for civil works
- site and equipment safety requirements
- techniques for calculating safe working loads
- backhoe/loader techniques related to essential tasks
- processes for interpreting drawings and sketches
- operational, maintenance and basic diagnostic procedures
- site isolation and traffic control responsibilities and authorities
- materials safety data sheet and materials handling methods
- project quality requirements
- civil construction terminology
- methods of changing machine attachments

- safe operating techniques in all terrain
- basic earthworks calculations
- civil construction activity sequences of road construction, earthworks and drainage
- levelling techniques
- JSA's/Safe work method statement

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for conducting backhoe/loader operations • implementation of requirements, procedures and techniques for the safe, effective and efficient completion of backhoe/ loader operations, including: <ul style="list-style-type: none"> • in a minimum of two different soil types and • to include the mandatory tasks: mixing materials, stripping/spreading topsoils and materials, trench excavation, backfilling, lifting and carrying materials, loading dump trucks, wagons, hoppers, chutes, and cutting/boxing • working with others to undertake and complete backhoe/ loader operations that meet all of the required outcomes • consistent timely completion of backhoe/loader operations that safely, effectively and efficiently meet the required outcomes
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not

	<p>disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job.</p> <ul style="list-style-type: none"> • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
<p>Method of assessment</p>	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes, including: <ul style="list-style-type: none"> • in a minimum of two different soil types and • the mandatory tasks: mixing materials, stripping/spreading topsoils and materials, trench excavation, backfilling, lifting and carrying materials, loading dump trucks, wagons, hoppers, chutes, and cutting/boxing • consistently achieving the required outcomes

	<ul style="list-style-type: none">• first hand testimonial evidence of the candidate's:<ul style="list-style-type: none">• working with others to undertake and complete the backhoe/loader operations
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • codes of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>A backhoe/loader is:</p>	<ul style="list-style-type: none"> • a self-propelled wheeled machine with a main structural support designed to carry both a front-mounted bucket loading mechanism and a rear-mounted backhoe
<p>Backhoe/loader tasks are to include:</p>	<ul style="list-style-type: none"> • mixing materials, stripping/spreading topsoils and materials, trench excavation, backfilling, lifting and carrying materials, loading dump trucks, wagons, hoppers, chutes and cutting/boxing
<p>Backhoe/loader tasks may include:</p>	<ul style="list-style-type: none"> • scrub clearing, ripping, compacting, cutting, batters and benches, rock breaking, demolition and any activities associated with the attachments listed
<p>A skid steer loader is:</p>	<ul style="list-style-type: none"> • a self-propelled wheeled machine in which steering is accomplished by skidding or reversing the wheels or tracks on one side of the machine. It has an integral front-mounted bucket-supporting structure and linkage, which loads or excavates through forward motion of the machine, and lifts, transports and discharges material
<p>Skid steer loader may include:</p>	<ul style="list-style-type: none"> • compacting, truck excavation, lifting and carrying materials, cutting batters and benches, rock breaking and any activities associated with attachments listed
<p>Skid steer loader tasks are to include:</p>	<ul style="list-style-type: none"> • stripping/ spreading topsoil and materials, backfilling, lifting, loading vehicles, excavations, mixing materials and site clean

	up
Work instructions may include:	<ul style="list-style-type: none"> plans, specifications, quality requirements and operational details quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction
Safety requirements are to be:	<ul style="list-style-type: none"> in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan
Safety requirements may include:	<ul style="list-style-type: none"> protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of First Aid equipment, hazard control and hazardous materials and substances personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices safe operating procedures which are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel, restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public safe parking practices which is to include but not be limited to ensuring access ways are clear, equipment/ machinery is away from overhangs and refuelling sites, safe distance from excavations, and secured from unauthorised access or movement hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping, extinguishing fires, organisational First Aid requirements and evacuation
Tools and equipment are to	<ul style="list-style-type: none"> hand tools and maintenance equipment

include:	relevant to the particular loader and may include lifting equipment
Environmental requirements are to include:	<ul style="list-style-type: none"> organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management
Communications practices are to include:	<ul style="list-style-type: none"> verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task on site meeting processes may include notification/ scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues
Materials may include:	<ul style="list-style-type: none"> clays, silts, stone, gravel, mud, rock, sand, topsoil, blended materials, organic materials, typical construction site materials/waste and bituminous mixes rock types may include metamorphic, igneous and sedimentary
Attachments may include:	<ul style="list-style-type: none"> extending devices, tilt bucket, buckets, compaction wheel, ripper, plate compactor, rock breaker, auger, broom, mower/slasher, forklift, 4 in 1 bucket and free/rock grab
Operator maintenance is to include:	<ul style="list-style-type: none"> cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements and the provision of assistance to maintenance personnel during maintenance and repair activities

Unit Sector(s)

Mobile Plant Operations

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

RIIRIS201B Conduct local risk control

Modification History

Not applicable.

Unit Descriptor

This unit covers the conduct of local risk control in resources and infrastructure industries. It includes identifying hazards; assessing risk and identifying unacceptable risk; identifying, assessing and implementing risk treatments; and completing records and reports.

Application of the Unit

This unit is appropriate for those working in entry level operational roles, at worksites within:

- Civil construction
- Coal mining
- Drilling
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Identify hazards	1.1. Access, interpret and apply compliance documentation relevant to conducting local risk control 1.2. Inspect work area conditions to identify potential hazards in the workplace 1.3. Apply existing procedures to deal with recognised hazards 1.4. Recognise the type and scope of unresolved hazards and their likely impact
2. Assess risk and identify unacceptable risk	2.1. Assess and determine consequence if the event should occur 2.2. Consider and determine likelihood of the event 2.3. Identify criteria for the acceptability/unacceptability of the risk or source from the appropriate party 2.4. Assess risk against criteria to identify if it warrants ' unacceptable risk ' status and either action or refer to the appropriate party
3. Identify, assess and implement risk treatments	3.1. Identify and consider all possible risk treatment options 3.2. Identify options by preliminary analysis and consideration of possible options 3.3. Analyse options, including the identification of resource requirements 3.4. Select most appropriate action for dealing with the situation 3.5. Plan and prepare the course of action in detail and acquire/obtain required resources 3.6. Implement the risk treatment 3.7. Review risk management processes
4. Complete records and reports	4.1. Communicate information on the course of action and implementation 4.2. Complete records and reports for hazards and actions from personal risk assessment as specified by legislation and site requirements

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to conduct local risk control:

- apply legislative, organisation and site requirements and procedures
- speak clearly and directly, listen carefully to instructions and information, respond to and clarify directions
- collect, analyse and organise information
- access, interpret and apply site information
- work with other team members
- apply teamwork to a range of situations
- apply problems solving skills
- apply decision making skills
- show initiative in adapting to changing work conditions or contexts
- apply time management
- take responsibility for self organisation of work priorities
- apply mathematical skills to perform a basic risk ranking of hazards
- interpret and apply material safety data sheets (MSDS)

Required knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following as required to conduct local risk control:

- risk management processes and methods, including: identifying hazards, assessing risks, determining acceptability of risks, identifying controls
- AS/NZS 4360-2004 Risk Management
- specific worksite risk management procedures
- specific worksite safety systems information
- specific worksite communication, reporting and recording procedures

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions to conduct local risk control • implementation of requirements, procedures and techniques for the safe, effective and efficient conduct of local risk control • working with others to undertake and conduct of local risk control that meets all of the required outcomes • consistent timely completion of conducting local risk control that safely, effectively and efficiently meets the required outcomes
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues.

	<ul style="list-style-type: none"> • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • working with others to undertake and conduct of local risk control
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisation and site requirements and procedures • Australian standards • code of practice • Employment and Workplace Relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Hazard is defined as:</p>	<ul style="list-style-type: none"> • a source of potential harm or a situation with a potential to cause loss
<p>Hazards may include:</p>	<ul style="list-style-type: none"> • equipment • stored energy • methods • plans • people • the work environment
<p>Risk is defined as:</p>	<ul style="list-style-type: none"> • The chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood
<p>Risk treatment is defined as:</p>	<ul style="list-style-type: none"> • selection and implementation of appropriate options for dealing with risk
<p>Consequence is defined as:</p>	<ul style="list-style-type: none"> • the outcome of an event or situation expressed qualitatively or quantitatively, being a loss, injury, disadvantage or gain
<p>Frequency is defined as:</p>	<ul style="list-style-type: none"> • a measure of likelihood expressed as the number of occurrences of an event in a given time
<p>Likelihood is used as:</p>	<ul style="list-style-type: none"> • a qualitative description of probability and frequency
<p>Probability is defined as:</p>	<ul style="list-style-type: none"> • the measure of the chance of occurrence expressed as a number between 0 and 1
<p>Criteria for the acceptability/ unacceptability of the risk must be determined by:</p>	<ul style="list-style-type: none"> • the organisation's internal policy, goals and/ or objectives in reference to relevant legislation

<p>Risk treatment options may include:</p>	<ul style="list-style-type: none"> • eliminating the hazard • substitution • engineering controls • administrative controls (procedures, etc) • personal protective equipment.
<p>Records and reports may include:</p>	<ul style="list-style-type: none"> • hazard reporting forms • supervisor/deputy/OCE reports • incident reports • near miss reports • shift reports • JSAs • Take 5 • Step Back

Unit Sector(s)

Risk Management

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.

SFIPROC504C Design and manage a product recall

Modification History

Not Applicable

Unit Descriptor

<p>Unit descriptor</p>	<p>This unit of competency describes the activities involved in product recall decision making, and managing the processes involved in accepting and disposing of recalled product in the event of a seafood emergency.</p> <p>It also involves the recognition of activities relating to the withdrawal of products that are found to be an unacceptable risk, such as might be represented by those items recalled/returned in the course of normal production, and low-risk situations, such as product returned for re-processing or re-packaging.</p> <p>Licensing, legislative, regulatory or certification requirements may apply to this unit. Therefore it will be necessary to check with the relevant state or territory regulators for current licensing, legislative or regulatory requirements before undertaking this unit.</p>
-------------------------------	--

Application of the Unit

<p>Application of the unit</p>	<p>All enterprise or workplace procedures and activities are carried out according to <i>relevant government regulations, licensing and other compliance requirements</i>, including <i>occupational health and safety (OHS) guidelines, food safety and hygiene procedures</i> and <i>ecologically sustainable development (ESD) principles</i>.</p>
---------------------------------------	--

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Gather evidence to determine advisability of <i>product recall</i>	1.1. Information and/or inputs from production, regulators or customers are monitored to ensure <i>conformance with specifications</i> . 1.2. Non-conformance is analysed and a risk assessment conducted to determine source of problem and potential outcome. 1.3. Non-conformance of a scale to warrant recall action is reported to appropriate personnel/agencies. 1.4. Decision to recall product is taken in a timely manner. 1.5. Protocol for <i>engaging the media</i> during the recall is developed and agreed between the <i>relevant parties</i> .
2. Manage recall process and associated record keeping	2.1. Protocol for acceptance of recalled product is developed and agreed between the relevant parties. 2.2. The need for, and level of, <i>isolation</i> of returned product is communicated to all personnel. 2.3. Accurate records of current stocks and returned product are maintained throughout recall period. 2.4. Records are stored according to third-party requirements.
3. Oversee re-introduction, disposal and/or destruction of recalled product	3.1. Returned product is isolated from current stocks, product or facilities in a manner consistent with the level of recall. 3.2. <i>Disposal or destruction processes</i> are implemented according to third-party procedures.
4. Conduct post-recall review	4.1. A review encompassing all aspects of recall is initiated. 4.2. A comprehensive report identifying source of problem is prepared. 4.3. Recommendations to prevent re-occurrence are developed and forwarded to appropriate personnel/agencies.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communicating food standards to staff
- communicating with management and other key stakeholders
- discriminating between the need to recall food product in the normal course of business and a recall based on a serious public health risk
- implementing recall measures in a timely manner
- maintaining relationships with clients and customers during the course of a product recall
- maintaining safe working practices in an emergency setting
- managing media contact
- managing own work and that of work teams while under close scrutiny
- sorting, collecting, treating, disposing and/or recycling of returned product or wastes.

Literacy skills used for:

- analysing reports to determine improvements
- preparing reports
- recording and reporting information
- reading and interpreting food standards and recall protocols
- writing media releases
- using records for traceability.

Numeracy skills used for:

- calculating volumes
- estimating time including use-by-dates and product shelf life
- reading and analysing production data.

Required knowledge

- causes and effects of contamination and cross-contamination and corrective actions required
- procedures for recall and/or return of product in the normal course of business
- quality assurance principles and practices
- procedures to handle food recalls required by Australian Food Standard 3.2.2 *Food Safety Practices and General Requirements*, or its successor standard
- roles and responsibilities of stakeholders in a product (emergency) recall
- state, territory or national health agency requirements for notification in the event of a food recall

REQUIRED SKILLS AND KNOWLEDGE

- work instructions relating to relevant processing tasks
- workplace hygiene and sanitisation policies and procedures
- work team dynamics and leadership.

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment evidence required to demonstrate competence in this unit	<p>Assessment must confirm the ability to:</p> <ul style="list-style-type: none"> design and manage a product recall which addresses both the day-to-day needs of the food business, and an emergency recall situation which will involve cooperation and communication with numerous external agencies. <p>Assessment must confirm knowledge of:</p> <ul style="list-style-type: none"> establishment and handling of media relationships during the course of a product recall legal and financial issues relevant to the recall of food product media involvement in emergency situations procedures to handle food recalls required by Australian Food Standard 3.2.2 <i>Food Safety Practices and General Requirements</i>, or its successor standard product recall documentation, recording and reporting requirements requirements of the enterprise food safety plan sampling and test schedules the Food Business Priority Classification System.
Context of and specific resources for assessment	<p>Procedures and documentation used in an assessment should be typical of those used in the workplace for recalls/returns undertaken in the normal course of business. In the case of emergency recalls a set of documents, which may be untested but which satisfy the relevant requirements, may be used.</p> <p>Resources may include:</p> <ul style="list-style-type: none"> access to supervisors and or peers documentation relating to past (recall) events enterprise food safety plan

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • enterprise policy and procedures for the return and/or recall of product • food recall protocols • relevant standards.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • project (work or scenario based) • workplace documentation • written or oral questions.
Guidance information for assessment	<p>This unit may be assessed holistically with other units within a qualification.</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Relevant government regulations, licensing and other compliance requirements</i> may include:</p>	<ul style="list-style-type: none"> • ESD principles, environmental hazard identification, risk assessment and control • food safety, Hazard Analysis Critical Control Point (HACCP), hygiene and temperature control along chain of custody • imports quarantine and inspection, and importing approved arrangements for Australian Quarantine Inspection Service (AQIS), Australian Customs Service (ACS) and Biosecurity Australia (BA) • land, buildings and vehicles: <ul style="list-style-type: none"> • road laws for use of motor vehicles, bikes, trucks and other transport equipment • use of utilities, including water, natural gas, electricity and sewage • business or workplace operations, policies and practices: <ul style="list-style-type: none"> • commercial law, including fair trading and

RANGE STATEMENT	
	<p>trade practices</p> <ul style="list-style-type: none"> • consumer law • corporate law, including registration, licensing and financial reporting • disability policies and practices • equal opportunity, anti-discrimination and sexual harassment • industrial relations and awards, individual employment contracts and share of catch agreements • jurisdictional variations • superannuation • taxation • trade practices • warnings and dismissals • worker's compensation • OHS hazard identification, risk assessment and control • product quality assurance: <ul style="list-style-type: none"> • correct naming and labelling (e.g. country of origin, Australian Fish Names Standard and eco-labelling) • correct quantities, sizes and other customer requirements • third-party certification (e.g. Australian Grown and ISO 14001:2004 Environmental management systems).
<i>OHS guidelines</i> may include:	<ul style="list-style-type: none"> • appropriate workplace provision of first aid kits and fire extinguishers • clean, uncluttered, hygienic workplace • codes of practice, regulations and/or guidance notes which may apply in a jurisdiction or industry sector • enterprise-specific OHS procedures, policies or standards • hazard and risk assessment of workplace and maintenance activities and control measures • induction or training of staff, contractors and visitors in relevant OHS procedures and/or requirements to allow them to carry out their duties in a safe manner

RANGE STATEMENT	
	<ul style="list-style-type: none"> • OHS training register • safe lifting, carrying and handling technique, including manual handling, and the handling and storage of hazardous substances • safe systems and procedures for outdoor work, including protection from solar radiation, fall protection, confined space entry and the protection of people in the workplace • systems and procedures for the safe maintenance of property, machinery and equipment, including hydraulics and exposed moving parts • the appropriate use, maintenance and storage of PPE.
<p><i>Food safety and hygiene regulations and procedures</i> may include:</p>	<ul style="list-style-type: none"> • Australian Shellfish Sanitation program • display, packaging and sale of food, including seafood and aquatic products • equipment design, use, cleaning and maintenance • exporting requirements, including AQIS Export Control (Fish) orders • handling and disposal of condemned or recalled seafood products • HACCP, food safety program, and other risk minimisation and quality assurance systems • location, construction and servicing of seafood premises • people, product and place hygiene and sanitation requirements • Primary Products Standard and the Australian Seafood Standard (voluntary) • processing, further processing and preparation of food, including seafood and aquatic products • product labelling, tracing and recall • receipt, storage and transportation of food, including seafood and aquatic products • requirements set out in Australian and New Zealand Food Authority (ANZFA) Food Standards Code and state and territory food regulations • temperature and contamination control along chain of custody.

RANGE STATEMENT	
<i>ESD principles</i> may include:	<ul style="list-style-type: none"> • controlling the use and recycling of water, and managing water quality and quantity • increasing use of renewable, recyclable and recoverable resources • managing environmental hazard identification, risk assessment and control • managing imported products quarantine and inspection, facility biosecurity, translocation of livestock and genetic material, and health certification • managing, controlling and treating effluents, chemical residues, contaminants, wastes and pollution • minimising noise, dust, light or odour emissions • planning environmental and resource efficiency improvements • preventing genetically modified organisms and live cultured or held organisms from escaping into environment • reducing emissions of greenhouse gases • reducing use of non-renewable resources • reducing energy use and introducing alternative energy sources.
<i>Product recall</i> may:	<ul style="list-style-type: none"> • be from wholesalers retailers and/or consumers • impose special transport and/or storage requirements • include withdrawal due to product defect, pending further investigation • need to conform to the food standards code or be in response to the seafood emergency plan • include recall of product due to hazard to consumers.
<i>Conformance with specifications</i> may include:	<ul style="list-style-type: none"> • food product life cycles • food recall protocols • food standards code.
<i>Engaging the media</i> may include:	<ul style="list-style-type: none"> • authority for initiating contact or responding to approach by media • liability considerations to the enterprise • nature of recall (i.e. voluntary or compulsory).
<i>Relevant parties</i> may include:	<ul style="list-style-type: none"> • importer of raw materials used in the recalled product

RANGE STATEMENT	
	<ul style="list-style-type: none"> • insurers • legal advisers (own and others) • manufacturer of raw materials or end-product • police in the event of an extortion or an attempted extortion • recall sponsor which may include state or territory health authorities • suppliers relevant to the recall.
<i>Isolation</i> may:	<ul style="list-style-type: none"> • be undertaken with supervision by health authority • require a central collection site • include risk of contamination of manufacturing or storage facility.
<i>Disposal or destruction processes</i> may include:	<ul style="list-style-type: none"> • environmental requirements or obligations • food industry recall protocol.

Unit Sector(s)

Unit sector	Seafood processing
--------------------	--------------------

Co-requisite units

Co-requisite units	

Competency field

Competency field	
-------------------------	--

SIRRFSA001A Apply retail food safety practices

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
Second Release	Editorial updates

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to implement safe food storage handling processes in a retail food environment according to a food safety program.

Application of the Unit

This unit applies to frontline service personnel involved in preparing, displaying and selling retail food. It requires the frontline service personnel to have knowledge and application of a store food safety program that complies with food safety regulations.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Apply personal hygiene and sanitation.	1.1. Identify and demonstrate good <i>personal hygiene practices</i> . 1.2. Identify, maintain and use <i>protective clothing and equipment</i> . 1.3. Ensure <i>personal movement</i> within and outside workplace complies with work area requirements. 1.4. Maintain personal presentation, according to store procedures and <i>legislative requirements</i> .
2. Identify food safety program.	2.1. Identify and interpret store food safety program. 2.2. Implement food safety program.
3. Store and handle food products hygienically.	3.1. Transport packaged <i>food supplies</i> to the appropriate storage area promptly, safely and without damage. 3.2. Identify and practise <i>food storage requirements</i> , according to <i>store procedures</i> and legislative requirements. 3.3. Identify and use <i>food handling implements</i> for handling products according to legislative requirements. 3.4. Avoid cross contamination by changing food handling implements between handling different products and appropriate hand washing.
4. Clean work area and equipment.	4.1. Identify and practise cleaning requirements for <i>work areas</i> , according to store procedure, the food safety program and legislative requirements. 4.2. Identify and practise external and internal cleaning requirements for <i>equipment</i> , according store procedures and the food safety program legislative requirements. 4.3. Identify and use appropriate and safe cleaning tools, consumables and equipment for a variety of applications. 4.4. Identify and practise appropriate and safe <i>routine maintenance</i> requirements for food storage and work areas and equipment, according to store procedures and the food safety program. 4.5. Report maintenance requirements and problems to relevant personnel without delay. 4.6. Identify and observe handling and storage requirements for cleaning chemicals, according to manufacturer safety data sheets

- and store procedures and the food safety program.
- 4.7. Identify and perform waste disposal and pest control procedures, according to store procedures, food safety program and legislative requirements.
5. Monitor food safety.
- 5.1. Monitor food safety hazards to control food safety risk.
- 5.2. Identify *potentially unsafe food safety processes or situations* and take *corrective action*.
- 5.3. Record food safety information, including equipment breakdowns, according to the food safety program.
6. Contribute to continuous improvement.
- 6.1. Promptly identify hygiene and sanitation problems or situations, including potential sources of food-contamination, and rectify or report to relevant personnel.
- 6.2. Promptly identify conditions that promote microbial growth and rectify or report to relevant personnel.

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- interpersonal skills to:
 - report maintenance requirements
 - take corrective action in relation to food safety and contribute to continuous improvement through clear and direct communication
 - ask questions to identify and confirm requirements
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication
- technical skills to:
 - handle chemicals
 - maintain work area
 - handle product
 - use personal protective equipment
 - avoid of cross-contamination
- self management skills to:
 - ensure personal hygiene
 - conduct cleaning requirements
- literacy and numeracy skills to:
 - interpret store procedures
 - record food safety information

Required knowledge

- store policy and procedures and legislative requirements, in regard to:
 - personal hygiene practices
 - correct protective clothing
 - safety requirements to protect self and others
- food handling and hygiene principles, including:
 - awareness of the store food safety program, its purpose and implications for own work
 - own roles and responsibilities and those of food safety personnel for food handling requirements from raw material to finished product
 - techniques for minimising contamination and spoilage
 - common sources and types of contamination and food safety hazards, including conditions conducive to microbial growth and known allergens associated with food handling and processing
 - common types of physical, chemical and microbiological agents that can contaminate food
 - conditions that can cause physical, chemical and microbiological contamination

- correct storage of food, including hot, cold, raw and cooked, and relevant critical control points
- causes of deterioration of food, contamination, cross-contamination
- store procedures for identifying and reporting potential or actual sources of contamination
- food handling implements, e.g. gloves and tongs
- need for change of implements between products
- need for frequent change of storage medium for serving implements
- shelf life of products
- Hazard Analysis and Critical Control Point (HACCP)
- load limits of storage, display units to maintain correct temperatures, including:
 - effects of breaking temperature curtain, effects of blocking coils and air vents
 - overloading
- procedures for recording failures in the food safety program, including equipment breakdowns, and immediate action to be taken
- principles of temperature control and the temperature danger zone
- hazardous foods
- cleaning of work area:
 - store cleaning procedures and schedules for work areas and equipment (internal and external)
 - purpose and importance of cleaning and sanitation procedures
 - safe use and storage of cleaning tools, equipment and chemicals, and insecticides and pesticides
 - routine maintenance for work areas and equipment
 - waste collection and disposal, recycling and handling procedures
 - pest control procedures used in the workplace
- relevant legislation and statutory requirements
- relevant Work Health and Safety (WHS) requirements
- food safety policy, plans and responsibilities, including an understanding of the relationship between the quality system, the food safety program and audit requirements
- characteristics of materials, products and processes used to carry out work responsibilities
- relevant industry codes of practice

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently applies store policy and procedures, which comply with food safety regulations and relevant legislation
- consistently identifies, interprets, applies and implements the store food safety program according to health and hygiene requirements and store procedures
- consistently follows and applies store policy and procedures with regard to cleaning and maintaining equipment and safe handling and disposal of waste
- consistently follows store policy and procedures with regard to personal hygiene practices, including:
 - personal cleanliness, reporting of personal illness and infections
 - store personal presentation requirements for hair, clothes, footwear and jewellery
 - hand washing procedures
 - use and maintenance of clothing, footwear and related apparatus to meet hygiene requirements
- inspects own work area and identifies common food safety hazards and possible hazards
- consistently seeks instruction and applies store policy and procedures with regard to removal and isolation of suspect product or taking other corrective action
- consistently maintains personal conduct to minimise risk to food safety
- consistently monitors critical control points to identify food safety risks in own work area according to store procedures; this may include carrying out checks, inspections and tests
- investigates contamination and cross-contamination events and takes action to prevent contamination from occurring or recurring
- consistently records food safety information according to store policy and procedures
- consistently contributes to continuous improvement in own work area.

Context of and specific

Assessment must ensure access to:

resources for assessment

- a real or simulated work environment
- a food safety program
- protective clothing
- cleaning materials and chemicals
- pest control equipment and chemicals
- suitable food products
- relevant documentation, such as store policy and procedures on hygiene and sanitation practices
- food handling implements
- food storage and display equipment.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- a role play
- third-party reports from a supervisor
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Personal hygiene practices as may include:

- hand washing procedures
- personal presentation and cleanliness
- hair tied back, under net or under cap
- not touching hair or sneezing near food
- removal of jewellery as required by legislation
- reporting of personal illnesses and infections
- wounds, cuts and wearing of bandages or dressings
- changing gloves when handling different products.
- wearing of gloves, hairnets, hats, shoes, uniforms, outer garments and aprons when handling food as required

Protective clothing and equipment may include:

- clothing maintenance, laundering and storage requirements
- wearing gloves to protect hands from cleaning chemicals, heat or cold (insulation)
- wearing mesh gloves when using or cleaning sharp equipment
- wearing protective clothing and footwear.
- removing protective clothing prior to moving outside or from one area to another
- not moving into defined areas.

Personal movement may include:

Legislative requirements may include:

- food safety regulations
- WHS
- environmental protection legislation
- awards or agreements
- waste disposal
- hazardous substances and dangerous goods
- manual handling.

Food supplies may include:

- supplies received from both internal and external suppliers and maintained within a stock control system, including:
 - dry goods
 - hazardous foods
 - dairy goods
 - meat and seafood
 - poultry
 - fruit and vegetables

- Food storage requirements*** may include:
- frozen goods.
 - storage in:
 - refrigeration
 - freezers
 - coolrooms
 - dry stores
 - refrigerated display cabinets
 - food segregation
 - food packaging for storage
 - labelling of food
 - stock rotation
 - optimum maintenance of storage areas, including:
 - cleanliness
 - lighting
 - at required temperature
 - free from vermin or infestation
 - free from defects
 - optimum temperature management
 - ventilation of storage area
 - sanitation of storage area
 - disposal of damaged or spoiled supplies.
- Store procedures*** may include:
- compliance with food safety standards and the store food safety program
 - procedures such as:
 - personal hygiene
 - safe storage of food
 - safe storage and use of cleaning chemicals
 - cleaning regimes and timetables
 - protective clothing and equipment
 - safe handling and use of food preparation equipment
 - food handling procedures
 - control points
 - hazard analysis and critical control point (HACCP).
- Food handling implements*** may include:
- gloves
 - tongs
 - spoons
 - scoops.
- Work areas*** may include:
- floors
 - walls to required levels

Equipment may include:

- benches and working surfaces
- shelves
- store rooms and cupboards
- food service areas
- kitchen areas.
- crockery and glassware
- utensils
- pots, pans and dishes
- containers
- chopping boards
- garbage bins
- storage and display units
- coolrooms, refrigerators and freezers
- extraction fans
- thermometers, including infra red (for checking surface and air temperature)
- probe (for checking core temperature)
- ovens, bain-maries, rotisseries, grills, deep fryers and hotplates
- knives, slicers, drink machines, milkshake makers and coffee makers
- dishwashers.

Routine maintenance may include:

- calibration checks on relevant equipment
- detailed cleaning to ensure the elimination of crumbs food scraps or dirt build-up
- blade sharpening
- checking and reporting equipment faults
- checking pest control equipment and products, including:
 - fly screens
 - automatic doors
 - ultraviolet insect lights
 - vermin traps
- cleaning and sanitising waste bins and areas.

Potentially unsafe food safety processes or situations may include:

- spoiled or contaminated food
- out-of-date food
- customer complaints regarding food contamination
- situations that may indicate a need for food recall.

Corrective action must include:

- promptly report potentially unsafe food safety processes or situations to a supervisor
- acting on the advice of the supervisor.

Unit Sector(s)

Retail

Competency field

Food Safety

SIRRMER004A Prepare and display bakery products

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare, arrange and present bakery products within the store. It includes the setting up and maintenance of displays and labelling or pricing stock. It also includes the maintenance, handling and storage of bakery products.

Application of the Unit

Application of the unit

This unit requires the team member to demonstrate concise knowledge and application of store policy and food safety procedures, including legislative requirements, in all aspects of handling, preparing, displaying, ticketing and storing bakery products in a retail environment. Frontline staff and supervisors are responsible for this role.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

SIRRFSA001A Apply retail food safety practices

Employability Skills Information

Employability skills The required outcomes described in this unit contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare bakery products.	<p>1.1 Identify <i>preparation</i> and <i>handling requirements</i> for individual bakery products according to <i>legislative requirements</i> and <i>store policy and procedures</i>.</p> <p>1.2 Identify volume of product requiring preparation according to store procedures.</p> <p>1.3 Identify and prepare products according to product and legislative requirements.</p> <p>1.4 Use all <i>equipment</i> safely, switch off after use, and clean and store according to legislative requirements.</p> <p>1.5 Prepare items to comply with weight statements on labels according to legislative requirements.</p> <p>1.6 Select <i>packaging</i> and place items into or on packaging according to product requirements, legislative requirements and store procedures.</p>

ELEMENT	PERFORMANCE CRITERIA
2 Place and arrange bakery products.	<p>2.1 Unpack bakery products according to legislative requirements and store procedures.</p> <p>2.2 Check bakery products for quality and freshness prior to placement on display.</p> <p>2.3 Identify damaged, deteriorated, spoiled or out-of-date stock and take <i>corrective action</i> as required according to legislative requirements and store procedures.</p> <p>2.4 Identify packaging requirements for bakery products, and package and <i>label</i> products, where required, according to legislative requirements and store procedures.</p> <p>2.5 Place bakery products in or on <i>storage and display units</i> in determined locations and place individual products in separate areas, containers or dividers, where required, to avoid spoilage and to enhance presentation.</p> <p>2.6 Display bakery products to achieve a balanced appearance and promote sales.</p> <p>2.7 Place bakery product range to conform to fixtures, ticketing, prices or bar codes.</p> <p>2.8 Rotate bakery products according to shelf life, use-by dates, legislative requirements and store procedures.</p> <p>2.9 Ensure presentation of bakery products complies with product handling requirements and techniques, and legislative requirements.</p>
3 Prepare display labels and tickets.	<p>3.1 Prepare labels and tickets for window, wall or floor displays, display units or products according to store policy.</p> <p>3.2 Date code stock where required.</p> <p>3.3 Identify soiled, damaged, illegible or incorrect labels and tickets and take corrective action.</p> <p>3.4 Identify and ticket late mark-downs and reductions as required according to store policy.</p> <p>3.5 Use and maintain electronic ticketing equipment according to design specifications and store procedures.</p> <p>3.6 Maintain and <i>store ticketing equipment</i> in a secure location.</p>

ELEMENT	PERFORMANCE CRITERIA
4 Place, arrange and display price tickets and labels.	<p>4.1 Ensure tickets and labels are visible and correctly placed or replaced to conform to legislative requirements and store policy.</p> <p>4.2 Maintain correct pricing and clear information on products according to store procedures and legislative requirements.</p>
5 Maintain bakery product displays.	<p>5.1 Select bakery products for display.</p> <p>5.2 Set and dismantle promotion areas according to store procedures.</p> <p>5.3 Ensure products are arranged and faced up as directed and according to <i>layout and equipment specifications</i>.</p> <p>5.4 Identify, reset or remove unsuitable or out-of-date displays as directed.</p> <p>5.5 Identify optimum stock levels and replenish stock according to store policy.</p> <p>5.6 Maintain display areas in a clean, safe and hygienic manner according to legislative requirements.</p> <p>5.7 Remove excess packaging from display areas and dispose of according to legislative requirements and store procedures.</p>
6 Protect bakery products.	<p>6.1 Identify and use correct handling, storage and display techniques according to bakery product characteristics and legislative requirements.</p> <p>6.2 Identify and use <i>personal protective clothing</i> and equipment and implements for handling products according to legislative requirements and store procedures.</p> <p>6.3 Identify fragile products and handle with extra care to prevent damage or <i>deterioration</i>.</p> <p>6.4 Identify correct temperatures for <i>product range</i> and regularly check and maintain storage and display units to ensure products are kept at recommended temperatures according to legislative requirements and store procedures.</p> <p>6.5 Maintain and clean storage and display units according to</p>

ELEMENT

PERFORMANCE CRITERIA

legislative requirements.

- 6.6 Report temperature irregularities or equipment faults to *appropriate personnel* without delay and record according to legislative requirements and store procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- interpersonal communication skills to:
 - report temperature irregularities to appropriate personnel through clear and direct communication
 - share information
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication
- use and maintenance of:
 - food preparation tools and equipment
 - electronic labelling and ticketing equipment
 - food storage and display units
- completing tasks in set timeframe
- literacy and numeracy skills in relation to:
 - reading and interpreting store procedures and guidelines
 - weighing and measuring of goods
 - machine or manual preparation of labels and tickets.

The following knowledge must be assessed as part of this unit:

- store policy and procedures in regard to:
 - the sale of food items
 - food safety requirements
 - merchandising, ticketing, labelling and pricing
 - correct storage of stock
 - store promotional themes, advertising, catalogues and special offers
 - location of display areas
 - availability and use of display materials
 - stock rotation
 - stock replenishment
 - scheduling for building and rotating displays
 - correct manual handling techniques for protection of self and merchandise
 - correct storage procedures for labelling and ticketing equipment and materials
- store bakery product range

REQUIRED SKILLS AND KNOWLEDGE

- preparation of bakery products for display
- placing and arranging bakery products and maintaining displays
- pricing requirements, including GST requirements
- relevant OHS legislation and codes of practice
- relevant legislation and statutory requirements, including food safety
- Trade Practices and Fair Trading Acts
- relevant industry codes of practice.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently follows, applies and implements food safety requirements and store policy and procedures in regard to preparation, arrangement, presentation, handling and storage of bakery products
- consistently applies store policy and procedures in regard to displaying, merchandising, ticketing, pricing and storage of stock
- consistently displays merchandise on fixtures, shelves and display areas in determined locations according to special manual handling techniques and other safety requirements
- prepares display labels and price tickets for merchandise with regard to legislative requirements and store policy and procedures
- operates, maintains and stores a range of electronic ticketing equipment according to:
 - store policy and procedures
 - industry codes of practice
 - manufacturer instructions and design specifications
- consistently arranges correct pricing and information on merchandise according to store procedures, industry codes of practice and legislative requirements
- consistently identifies damaged, contaminated or out-of-date stock and takes corrective action as required by food safety requirements and store procedures
- consistently maintains display areas and replenishes stock as required according to store procedures
- consistently performs correct manual handling, storage and display techniques, including at point-of-sale operation, according to:
 - stock characteristics
 - industry codes of practice
 - OHS regulations
 - food safety practices.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- ticketing equipment
- products for preparation and display
- display materials and props
- cleaning equipment and materials
- relevant documentation such as:
 - store policy and procedure manuals
 - OHS
 - food safety requirements
 - industry codes of practice and relevant legislation
 - manufacturer instructions and operation manuals for electronic ticketing equipment.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- third-party reports from a supervisor
- customer feedback
- written or verbal questioning to assess knowledge and understanding
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SIRRFS001A Apply retail food safety practices.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically in the context of the job role and with other relevant units that make up the skill set or qualification.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Preparation of bakery products may include:

- baking
- de-panning
- decorating and finishing
- creaming and icing
- slicing
- packaging.

Handling requirements may vary according to stock characteristics, including:

- perishable items
- cooked and uncooked, and hot and cold items
- items requiring defrosting and freezing
- wet and dry items.
- soft or fragile items requiring careful handling, e.g. cream products
- separating items to enhance presentation and to prevent cross-contamination and spoiling
- items requiring chilling and heating.

Legislative requirements may include:

- OHS
- pricing procedures, including GST requirements
- manual handling
- food safety regulations
- consumer law
- waste disposal
- environmental protection
- industry codes of practice.

RANGE STATEMENT

Store policy and procedures in regard to:

- food safety practices and preparation, arrangement, presentation, handling and storage of bakery products
- maintenance and cleaning of equipment and working areas.

Equipment may include:

- tongs
- knives and slicers
- protective clothing
- food handling tissues
- paper towels
- scrapers and mixers
- ovens, proving cabinets and cold storage.

Packaging may include:

- cardboard trays, foil trays, polystyrene trays
- clear plastic containers
- plastic wrap
- plastic bags, foil bags and pre-heat bags
- paper bags and cloth bags
- cake trays and boxes.

Corrective action may include:

- return to supplier
- disposal
- report to supervisor and manager.

Labels may be provided or produced:

- electronically
- manually.

Label details may include:

- Australian Product Number (APN)
- name and address of vendor
- description of product
- price, ingredients, use-by-date or shelf life and nominal weight
- recommended storage procedures
- recommended intended use
- nutritional information.

RANGE STATEMENT

Storage and display units may include:

- window displays
- freezers, refrigerated units and coolrooms
- display fixtures, bins, cabinets, cases and self-serve units
- food warmers and bain-maries.

Store ticketing equipment may include:

- pricing gun
- shelf tickets and shelf talkers
- written or electronically produced labels
- bar coding
- price boards and header boards.

Layout and equipment specifications may include:

- load limits and load-bearing capacity of fixtures, storage and display units
- weight-bearing or volume capacity
- temperature maintenance.

Personal protective clothing may include:

- aprons
- gloves
- hair covering
- protective eyewear
- protective footwear.

Deterioration of product may include:

- contamination and adulteration
- product life, use-by date and staling
- crushing and damage
- drying out and sweating.

RANGE STATEMENT

Product range may include:

- bread lines
- sweet yeast products (buns, scrolls, donuts)
- pies and pizzas
- cakes, e.g. plain, cream, custard and fruit
- pastry lines, e.g. sweet, savoury, custard and fruit
- hot or cold items
- cooked or uncooked items
- par-baked or frozen
- iced and un-iced items.

Appropriate personnel may include:

- team leader
- supervisor
- manager.

Unit Sector(s)

Sector Retail

Competency field

Competency field Merchandising

SIRXCCS201 Apply point-of-sale handling procedures

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release Date	Comments
First Release:	This is a revised unit, based on and equivalent to SIRXCCS001A Apply point-of-sale handling procedures.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to operate point-of-sale equipment, apply store policy and procedures to a range of transactions, interact with customers, and package or wrap an item for transportation.

It covers demonstration of the ability to operate a range of point-of-sale equipment in order to complete sales, returns and exchange transactions, and process a number of methods of payment, according to store policies.

Application of the Unit

This unit applies to frontline service personnel.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Operate point-of-sale equipment.	<p>1.1. Open and close point-of-sale terminal according to <i>store policy and procedures</i>.</p> <p>1.2. Clear point-of-sale terminal and transfer tender according to store procedure.</p> <p>1.3. Handle cash according to store security procedures.</p> <p>1.4. Maintain supplies of change in point-of-sale terminal according to store policy.</p> <p>1.5. Attend active point-of-sale terminals according to store policy.</p> <p>1.6. Complete records for transaction errors according to store policy.</p> <p>1.7. Maintain adequate supplies of dockets, vouchers and <i>point-of-sale documents</i>.</p> <p>1.8. Inform <i>customers</i> of delays in the point-of-sale operation where required.</p>
2. Ensure accuracy of transactions.	<p>2.1. Identify and perform <i>numerical calculations</i> to ensure accurate pricing and collection of money.</p> <p>2.2. Collect numerical information from various sources and calculate accurately with or without the use of a calculator.</p>
3. Perform point-of-sale transactions.	<p>3.1. Complete <i>point-of-sale transactions</i> according to store policy.</p> <p>3.2. Identify and apply store procedures in respect of cash and non cash transactions.</p> <p>3.3. Identify and apply store procedures in regard to exchanges and returns.</p> <p>3.4. Move goods through point-of-sale area efficiently and with attention to fragility and packaging.</p> <p>3.5. Enter information into <i>point-of-sale equipment</i>.</p> <p>3.6. State price or total and amount of cash received verbally to customer.</p> <p>3.7. Tender correct change.</p>

4. Complete sales.
 - 4.1. Complete customer order forms, invoices and receipts and process any loyalty card transactions.
 - 4.2. Identify and process customer delivery requirements according to set timeframes.
 - 4.3. Process sales transactions or direct customers to point-of-sale terminals according to store policy without undue delay.
 - 4.4. Acknowledge and thank customer in line with store policy and procedures.

5. Wrap and pack goods.
 - 5.1. Maintain and request adequate supplies of ***wrapping and packaging materials***.
 - 5.2. Select appropriate wrapping or packaging material.
 - 5.3. Wrap merchandise neatly and effectively where required.
 - 5.4. Pack items safely to avoid damage in transit, and attach labels where required.
 - 5.5. Arrange transfer of merchandise for parcel pick up or other ***delivery methods*** if required.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication and interpersonal skills to:
 - ask questions to identify and confirm requirements
 - inform customers of delays
 - listen actively
 - request adequate supplies of wrapping material or bags through clear and direct communication
 - share information
 - state price or total and amount of cash received
 - use and interpret non-verbal communication
 - use language and concepts appropriate to cultural differences
- self-management skills to:
 - deal with different types of transactions
 - follow set routines and procedures
- literacy and numeracy skills to:
 - document sales and delivery information
 - render change
 - undertake work functions, including addition, division, multiplication, percentages and subtraction

Required knowledge

- cash and non-cash handling procedures, including:
 - balancing point-of-sale equipment
 - calculating non-cash documents
 - change required, denominations of change and tendering change
 - clearance of terminal and transference of tender
 - counting cash
 - maintenance of cash float
 - opening and closing point-of-sale terminal
 - recording takings
 - security of cash and non-cash transactions
- functions and procedures for operating point-of-sale equipment, including:
 - calculators
 - electronic scales
 - numerical display board
 - registers
- merchandise handling techniques, including wrapping and packaging techniques

- range of services provided by the store
- relevant legislation and statutory requirements, including:
 - industry codes of practice
 - work health and safety (WHS)
 - Australian consumer law
 - scanners
- store policy and procedures in relation to:
 - allocated duties and responsibilities
 - bag checking
 - customer service
 - exchanges and returns
 - handling, packing and wrapping goods or merchandise
 - point-of-sale transactions
- stock availability
- key features of a calculator

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- operates point-of-sale equipment according to manufacturer instructions and store policy and procedures
- applies store policy and procedures in regard to cash handling and point-of-sale transactions
- interprets, calculates and records numerical information accurately
- processes sales transaction information responsibly and accurately according to store policy and procedures
- applies store policy and procedures in regard to the handling, packing, wrapping and delivery of goods or merchandise.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated retail work environment
- relevant documentation, such as:
 - stock, inventory and price lists
 - financial transaction dockets and slips
 - lay-by, credit and product return slips
 - store policy and procedures manuals
- a range of point-of-sale equipment.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the work
- role play
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, work and job role is recommended, for example:

- SIRXCCS202 Interact with customers
- SIRXFIN201 Balance and secure point-of-sale terminal
- SIRXINV001A Perform stock control procedures
- SIRXRSK201 Minimise loss.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the individual, accessibility of the item, and local industry and regional contexts) may also be included.

- Store policy and procedures*** in regard to:
- cash handling
 - financial transactions
 - handling techniques of stock
 - operation of point-of-sale equipment
 - sales transactions
 - security.
- Point-of-sale documents*** may include:
- credit slips
 - lay-by slips
 - message pads
 - order forms
 - product return slips
 - promotional materials.
- Customers*** may include:
- customers with routine or special requests
 - internal and external contacts
 - new or repeat contacts
 - people from a range of social, cultural and ethnic backgrounds
 - people with varying physical and mental abilities.
- Numerical calculations*** may include:
- addition and subtraction
 - calculations of cash amounts and change
 - calculations of discount amounts
 - estimation of quantities
 - measurement
 - multiplication and division
 - percentages.
- Point-of-sale transactions*** may include:
- cheques
 - credit cards and store cards
 - EFTPOS
 - exchanges
 - gift vouchers
 - lay-by
 - returns
 - smart cards
 - travellers cheques.
- Point-of-sale equipment***
- cash drawer
 - cash register

may include:

- EFTPOS terminal
- electronic scales
- numerical display board
- scanner
- security tagging.

Wrapping and packaging materials
may include:

- adhesive tape
- bags
- boxes
- bubble wrap
- gift wrapping
- paper
- ribbon
- string.

Delivery methods may include:

- courier
- domestic or international delivery
- freight
- parcel pick-up
- post or express post.

Unit Sector(s)

Cross-Sector

Competency Field

Client and Customer Service

SIRXCCS202 Interact with customers

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release Date	Comments
First Release:	This is a revised unit, based on and equivalent to SIRXCCS002A Interact with customers.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to deliver service to customers. It involves being able to communicate effectively with customers, respond to their complaints, receive and process sales orders, and identify special customer requirements.

The unit covers the consistent application of store policies and industry codes of practice to provide a quality service environment by treating customers and team members in a courteous and professional manner through all stages of the service and sales procedure, and to identify and resolve customer complaints.

Application of the Unit

This unit applies to frontline service personnel.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Deliver service to customers.	<p>1.1. <i>Communicate</i> with <i>customers</i> in a professional, courteous manner according to store policy.</p> <p>1.2. Meet <i>customer needs</i> and reasonable requests or refer to supervisor, according to store policy and <i>legislative requirements</i>.</p> <p>1.3. Record customer details and information where necessary.</p> <p>1.4. Identify and anticipate possible problems and take action to minimise the effect on customer satisfaction.</p> <p>1.5. Recognise and act upon opportunities to deliver additional levels of <i>service</i> beyond the customer's immediate request.</p> <p>1.6. Maintain contact with customer until sale is completed according to store policy.</p> <p>1.7. Use verbal and non-verbal communication to develop rapport with customers during service delivery.</p> <p>1.8. Encourage repeat customers by promotion of appropriate services or products according to store policy.</p> <p>1.9. Farewell customer appropriately and courteously according to store policy.</p>
2. Respond to customer complaints.	<p>2.1. Convey a positive, helpful attitude to customers when handling <i>complaints</i>, according to store policy.</p> <p>2.2. Handle complaints sensitively, courteously and with discretion.</p> <p>2.3. Establish and confirm with customer nature of complaint by active listening and questioning.</p> <p>2.4. Take action to resolve complaint to customer's satisfaction wherever possible.</p> <p>2.5. Promptly refer unresolved customer dissatisfaction or complaints to supervisor.</p> <p>2.6. Take the opportunity to turn incidents of customer dissatisfaction into a demonstration of high-quality service to customer according to store policy.</p> <p>2.7. Complete documentation regarding customer dissatisfaction</p>

- or complaints accurately and legibly.
- 2.8. Take *follow-up action* as necessary to ensure customer satisfaction.
3. Receive and process sales orders.
- 3.1. Record customer details and information accurately.
- 3.2. Promptly refer customers to appropriate area as required.
- 3.3. Provide customers with information in clear, concise manner.
- 3.4. Process, record and act upon sales orders according to store policy.
- 3.5. Process customer returns or refunds according to store policy and procedures.
4. Identify special customer requirements.
- 4.1. Promptly identify customers with special needs or requirements by observation and questioning.
- 4.2. Verbally and non-verbally convey a willingness to assist.
- 4.3. Promptly service, refer or redirect customers' needs as required.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication and interpersonal skills to:
 - build rapport and understanding
 - clarify and feed back information
 - deal with difficult customers
 - listen to customers' needs
 - negotiate with and persuade customers to buy
 - promote products and services
 - respond to complaints effectively and politely
- literacy and numeracy skills to:
 - calculate costs and discounts
 - document sales, stock and delivery information
 - follow procedures for recording customer orders that are placed in person, by telephone or by electronic means
 - handle legal tender
 - take messages in person or by telephone
 - write records of complaints
 - weigh and measure goods
- observation and analysis skills to anticipate customer behaviour
- self-management skills to follow set routines and procedures

Required knowledge

- add-on selling concepts
- conflict-resolution strategies
- functions and procedures for operating the store telephone system and other communication equipment, and the relevant numbers
- greeting and farewelling techniques
- location of store departments
- merchandise and service range of store departments
- non-verbal cues indicating customer behaviour
- questioning and active listening techniques
- relevant legislation and statutory requirements, including work health and safety (WHS)
- store policy and procedures in regard to:
 - customer service
 - dealing with customer complaints
 - allocated duties and responsibilities
 - customer returns and refunds

- lay-by, gift voucher and rain-check procedures
- strategies for handling difficult or abusive customers

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- accesses, records and processes sales orders accurately and responsibly, according to store policy and procedures
- identifies the nature of customer complaints, resolves complaints and provides service to customers according to store policies
- collaboratively works within a team to meet customers' needs
- applies store policy and procedures and industry codes of practice in regard to customer service
- provides a quality service environment by treating customers and team members in a courteous and professional manner through all stages of the service and sales procedure
- uses effective questioning, active listening and observation skills to identify special customer requirements.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated retail work environment
- relevant documentation, such as:
 - sales order forms
 - complaint and return forms
 - stock, inventory and price lists
 - store policy and procedures manuals
- a range of customers with different requirements
- point-of-sale equipment and materials
- a communication system or a range of communication equipment.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- role play
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information

Holistic assessment with other units relevant to the industry

for assessment

sector, workplace and job role is recommended, for example:

- SIRXCCS201 Apply point-of-sale handling procedures
- SIRXFIN201 Balance and secure point-of-sale terminal
- SIRXINV001A Perform stock control procedures
- SIRXRSK201 Minimise loss.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the individual, accessibility of the item, and local industry and regional contexts) may also be included.

Communication

techniques may include:

- face-to-face or telephone contact with customers
- non-verbal communication
- speaking clearly and concisely
- using appropriate language
- using open and inclusive language.

Customers may include:

- customers with routine or special requests
- internal and external contacts
- new or repeat contacts
- people from a range of social, cultural and ethnic backgrounds
- people with varying physical and mental abilities.

Store policy may relate to:

- cash handling
- customer service
- dealing with customer complaints
- processing sales orders.

Customer needs may include:

- information regarding store facilities and services
- location of specific items within the store
- product information
- returns or refunds.

Legislative requirements may include:

- liquor licensing regulations
- lottery legislation
- sale of second-hand goods
- sale of X and R-rated products
- tobacco laws
- Trade Practices Act
- trading hours
- transport, storage and handling of goods.

Service may include:

- all store activities
- internal and external customers
- follow-up in event of delays in service provision.

Complaints may relate to:

- prices
- products
- service.

Follow-up action may require:

- communication with:
 - customers

- staff
- supervisors and management
- suppliers
- recommendations to supervisor regarding policy and procedure development or alteration.

Unit Sector(s)

Cross-Sector

Competency Field

Client and Customer Service

SIRXCCS304 Coordinate interaction with customers

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
First Release	This is a revised unit, based on and equivalent to SIRXCCS003A Coordinate interaction with customers.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to coordinate interaction with customers. It involves implementing customer service standards, implementing store policy regarding customer complaints, communicating with management, and leading a customer service team.

This unit covers the ability to coordinate a customer service team, provide accurate feedback to management on operational and procedural matters related to customer service, and supervise the resolution of customer complaints according to store policy.

Application of the Unit

The unit applies to staff with team leadership and managerial responsibility.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Implement customer service standards.	<p>1.1. Monitor <i>service standards</i> according to <i>store policy</i>.</p> <p>1.2. Identify deficiencies in service and take action as required according to store policy.</p> <p>1.3. Convey store and <i>legislative policies and procedures</i> in relation to customer service provision to <i>team</i> members.</p> <p>1.4. Give <i>feedback</i> on quality of service provision to team members and management on a regular basis and according to store policy.</p>
2. Implement store policy regarding customer complaints.	<p>2.1. Monitor service standards to ensure store policy in regard to customer complaints is implemented by sales staff.</p> <p>2.2. Authorise, action, or refer to a higher authority procedures to resolve customer complaints according to store policy.</p> <p>2.3. Satisfy <i>customers'</i> special needs where appropriate according to store policy.</p>
3. Communicate with management.	<p>3.1. Refer to management current store policies on customer service issues that may affect the operation of the department or section.</p> <p>3.2. Provide <i>operational information</i> to management and other supervisors in order to facilitate customer service planning.</p>
4. Lead customer service team.	<p>4.1. Interpret and communicate store policy and procedures and apply to store operation.</p> <p>4.2. Motivate, coach and mentor team members to achieve a high standard of service to customers.</p> <p>4.3. Ensure team access to current information on staff issues and operations.</p> <p>4.4. Clarify, plan and allocate team tasks in consultation with staff to ensure effective day-to-day store operations and efficient use of human resources.</p> <p>4.5. Inform team of changes in store service policy and procedures that affect their roles and responsibilities.</p> <p>4.6. Provide feedback to team in regard to achievement or non-achievement of agreed service standards and performance targets in line with standard store policy and procedures.</p> <p>4.7. Encourage team members to contribute feedback in regard to</p>

achievement of performance targets and to offer suggestions for improved processes.

4.8. Handle routine problems using appropriate *problem-solving* techniques and refer to management if required.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication and interpersonal skills to:
 - coach and give feedback
 - lead teams
 - make group presentations
 - negotiate, persuade and motivate
 - participate in performance analysis
 - question, listen and observe
 - use verbal and non-verbal communication
- literacy skills to:
 - complete a proforma for feedback to management
 - read and interpret store policy and procedures
- problem-solving skills to handle routine problems

Required knowledge

- interpersonal communication techniques
- lines of communication to staff and management
- merchandise and service range of the store
- relevant industry codes of practice relating to interaction with customers
- store policy and procedures in regard to:
 - customer service
 - customer complaints about products or individual staff
 - staff supervision
 - monitoring team performance
 - discipline
 - grievance handling
 - allocating duties and responsibilities
 - meetings
 - store appraisal

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- proactively coordinates a team in the provision of quality customer service according to store policy by:
 - allocating tasks
 - applying store policy
 - consulting with staff
 - conveying relevant information
 - identifying deficiencies
 - monitoring performance
 - motivating staff
 - solving routine problems
- provides accurate feedback to management on operational and procedural matters related to provision of customer service
- supervises the resolution of customer complaints according to store policy.

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- relevant documentation, such as:
 - industry codes of practice
 - legislation and statutory requirements
 - reporting proformas
 - store policy and procedures manuals
- a range of customers with different requirements
- a client service team.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the individual, accessibility of the item, and local industry and regional contexts) may also be included.

- Service standards*** may apply to:
- all store activities
 - internal and external customers.
- Store policy*** may relate to:
- customer service
 - dealing with customer complaints
 - staff supervision.
- Legislative policies and procedures*** may include:
- liquor licensing regulations
 - lottery legislation
 - sale of second-hand goods
 - sale of X and R-rated products
 - tobacco laws
 - Australian consumer law
 - trading hours
 - transport, storage and handling of goods.
- Teams*** may include:
- corporate team
 - small work team
 - store team.
- Feedback*** may include:
- informal and formal meetings
 - presentations
 - verbal reports
 - written reports.
- Customers*** may include:
- customers with a range of social, cultural and ethnic backgrounds and physical and mental abilities
 - customers with routine or special needs
 - internal or external customers
 - new and existing customers.
- Operational information*** may include:
- routine or busy trading times
 - sales trends
 - varying levels of staff training.
- Problem solving*** may be affected by:
- resource implications
 - store policy and procedures.

Unit Sector(s)

Cross-Sector

Competency Field

Client and Customer Service

SIRXFIN002A Perform retail finance duties

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
Second Release	Editorial updates

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to perform retail finance duties. It involves processing petty cash and non-cash transactions, preparing banking documents, reconciling invoices for payment and preparing invoices for debtors.

Application of the Unit

This unit applies to team members who process petty cash, cash and non-cash transactions; reconcile and process banking; identify and rectify delivery and document discrepancies; and process invoices for creditors and debtors, according to store policy and procedures. These tasks are performed under some supervision.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Process petty cash transactions.	<p>1.1. Check petty cash claims for approval, accuracy and authenticity before processing.</p> <p>1.2. Check and balance transactions according to <i>store policy and procedures</i>.</p> <p>1.3. Note irregularities and refer to <i>relevant personnel</i> for resolution.</p> <p>1.4. Process and record petty cash transactions within designated time limits.</p>
2. Prepare banking documents.	<p>2.1. Balance cashbook entries against record of takings.</p> <p>2.2. Compile and balance deposit entries.</p> <p>2.3. List cash and <i>non cash transactions</i> on banking deposit forms, according to the banking institution's guidelines.</p> <p>2.4. Process in store credit systems according to store policy.</p>
3. Process non cash transactions.	<p>3.1. Balance non cash transactions and present <i>documentation</i> to relevant personnel for checking.</p> <p>3.2. Note irregularities and refer to relevant personnel for resolution.</p>
4. Reconcile invoices for payment to creditors.	<p>4.1. Identify discrepancies between invoices and delivery notes and report to relevant personnel or section for resolution.</p> <p>4.2. Identify errors in invoice charges and report to relevant personnel or section for correction or resolution.</p> <p>4.3. Rectify discrepancies and errors as directed.</p> <p>4.4. Process corrected and authorised invoices for payment within designated time limits.</p> <p>4.5. Resolve creditor enquiries or refer to relevant personnel or section for resolution.</p>
5. Prepare invoices for debtors.	<p>5.1. Perform <i>preparatory calculations</i> to produce accurate customer invoices.</p> <p>5.2. Complete relevant documentation to ensure accuracy of contents.</p> <p>5.3. Distribute documents to relevant personnel or section for certification prior to being dispatched.</p> <p>5.4. Dispatch verified documents within designated time limits.</p> <p>5.5. Copy and <i>file</i> documents for auditing purposes.</p>

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- self management skills to complete tasks within a set timeframe
- literacy skills to interpret documentation
- numeracy skills to:
 - process petty cash transactions
 - receive and process deliveries
 - perform sales transactions
 - balance cashbook entries and takings
 - generate invoices
- interpersonal skills to:
 - refer and report irregularities, discrepancies and errors in transactions to relevant personnel
 - resolve creditor enquiries or refer to relevant personnel through clear and direct communication
 - ask questions to identify and confirm requirements
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication

Required knowledge

- store policy and procedures in regard to:
 - register or terminal balance
 - security of cash and non-cash transactions
 - petty cash
 - cash balances
 - banking procedures
 - purchase requisitions or orders
 - issuing of receipts
 - delivery dockets
 - credit notes
 - statements
 - remittance advices
 - cash register rolls
 - deposit books
 - change required and denomination of change
 - operation of equipment used at register or terminal
 - processing delivery and delivery document discrepancies
 - invoicing procedures for debtors and creditors

- payment and invoice procedures, including GST requirements
- cash and non-cash handling procedures, including:
 - opening and closing point-of-sale terminal
 - clearance of terminal and transference of tender
 - maintenance of cash balances
 - counting cash
 - calculating non-cash documents
 - customer credit ratings
 - balancing point-of-sale terminal
 - recording takings
 - change required and denominations of change
 - EFTPOS
 - credit cards
 - processing of cheques
 - gift vouchers
 - lay-by
 - cash on delivery (COD)
 - lay-by
 - credits and returns
 - customer refunds

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently applies store policy and procedures in regard to petty cash and non-cash transactions, invoicing, banking processes and processing delivery and document discrepancies
- consistently applies skills related to the reconciliation and payments of invoices for creditors and debtors, according to store policy and procedures.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated work environment
- relevant documentation, such as:
 - store policy and procedures manuals
 - financial transaction dockets, slips and invoices
 - banking deposit forms
- EFTPOS facilities and equipment
- registers and related equipment
- relevant financial management systems.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- a role play
- third-party reports from a supervisor
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SIRXADM001A Apply retail office procedures
- SIRXICT001A Operate retail technology.

Range Statement

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

Store policy and procedures in regard to:

- store financial systems.

Relevant personnel may include:

- manager
- supervisor
- team leader
- specialist staff.

Non-cash transactions may include:

- EFTPOS and credit cards
- customer credit ratings
- cheques
- hire-purchase
- lay-by
- cash on delivery (COD)
- customer refunds.

Documentation may include:

- purchase requisitions
- purchase orders
- invoices
- receipts
- delivery dockets and receipts
- credit notes
- statements
- remittance advices
- cash register rolls
- deposit books.

Preparatory calculations may include:

- application of prior credit
- discounting
- quantity
- calculation of GST.

Methods used to ***file*** documents may include:

- manual
- electronic.

Unit Sector(s)

Cross-Sector

Competency field

Finance

SIRXFIN201 Balance and secure point-of-sale terminal

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
First Release	This is a revised unit, based on and equivalent to SIRXFIN001A Balance point-of-sale terminal.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to balance and reconcile a register or terminal in a retail environment. It involves clearing the register, counting money, calculating non-cash transactions, and reconciling and recording takings. The unit requires the application of store policy and procedures in undertaking those tasks.

Application of the Unit

This unit applies to frontline retail staff working under some supervision.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element

Performance Criteria

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

- | | |
|--|---|
| 1. Balance and secure takings from register or terminal. | 1.1. Perform <i>register or terminal</i> balance at designated times according to <i>store policy and procedures</i> .
1.2. Separate cash float from takings prior to balancing procedure and secure according to store policy.
1.3. Supply change to register or terminal according to store policy.
1.4. Obtain and interpret register or terminal reading or print-out.
1.5. Secure cash and <i>non cash documents</i> according to store security policy and procedures. |
| 2. Reconcile takings. | 2.1. Count cash accurately.
2.2. Calculate non cash documents accurately.
2.3. Determine balance between register or terminal reading and sum of cash and non cash transactions.
2.4. Report discrepancies between register or terminal reading and sum of cash and non cash transactions to <i>relevant personnel</i> according to store policy.
2.5. Record store and individual department takings and file <i>records</i> according to store policy. |

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- literacy and numeracy skills to:
 - balance the register or terminal
 - count cash
 - calculate non-cash transactions
 - calculate discrepancies between reported and actual takings
 - complete documentation
 - interpret documentation
 - report on takings
- planning and organising skills to complete tasks in a set timeframe
- technology skills to operate register or terminal

Required knowledge

- cash and non-cash handling procedures, including:
 - balancing point-of-sale terminal
 - calculating non-cash documents
 - change required and denominations of change
 - clearance of terminal and transference of tender
 - counting cash
 - credit and returns
 - credit cards
 - EFTPOS
 - gift vouchers
 - lay-by
 - maintenance of cash float
 - opening and closing point-of-sale terminal
 - recording takings
 - security of cash and non-cash transactions
- store policy and procedures in regard to:
 - cash float
 - operation of equipment used at register or terminal
 - register or terminal balance
 - security of cash and non-cash transactions

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- operates register or terminal equipment according to manufacturer instructions and store policy
- applies store policy and procedures in regard to handling cash and removing takings from register or terminal
- applies store policy and procedures in regard to cash float
- applies store policy and procedures in regard to reading registers and recording information
- processes documentation and records responsibly and according to store policy and procedures
- reconciles takings according to store policy and procedures.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated retail work environment
- relevant documentation, such as:
 - financial transaction dockets, slips and invoices
 - sample debit card and credit card vouchers
 - recording and tally sheets
 - store policy and procedure manuals in regard to register or terminal balance
- register or terminal and related equipment.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- role play
- written or verbal questioning to assess knowledge and understanding
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SIRXCCS201 Apply point-of-sale handling procedures
- SIRXRSK201 Minimise loss.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the individual, accessibility of the item, and local industry and regional contexts) may also be included.

Register or terminal may be:

- cleared at intervals during or at close of trading
- cleared by operator or specialist staff
- electronic
- manual.

Store policy and procedures in regard to:

- cash handling
- register or terminal balance
- security.

Non-cash documents may relate to:

- cash on delivery (COD)
- cheques
- credit cards
- customer credit ratings
- customer refunds
- gift vouchers
- hire-purchase
- lay-by.

Relevant personnel may include:

- manager
- supervisor
- team leader.

Records may be:

- electronic
- manual.

Unit Sector(s)

Cross-Sector

Competency Field

Finance

SIRXICT001A Operate retail technology

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
Second Release	Editorial updates

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to operate a variety of retail equipment. It involves identifying the correct equipment required for a given task, maintaining retail equipment, applying keyboard skills and operating data entry equipment.

Application of the Unit

This unit applies to frontline service personnel who operate and maintain a range of retail equipment, including point-of-sale systems, keyboards and data entry equipment, according to manufacturer instructions, design specifications, store policy and designated timeframes. This work is undertaken with some supervision and guidance.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Maintain retail equipment.	1.1. Identify purpose of <i>equipment</i> used in store or department. 1.2. Operate equipment, according to design specifications and <i>safety requirements</i> . 1.3. Identify equipment faults and report to <i>relevant personnel</i> . 1.4. Identify and apply maintenance program for retail equipment according to <i>store policy and procedures</i> .
2. Apply keyboard skills.	2.1. Operate keyboard using typing techniques within designated speed and accuracy requirements. 2.2. Enter and edit information accurately.
3. Operate data entry equipment.	3.1. Enter data using relevant equipment, according to store policy and procedures. 3.2. Operate price marking equipment, according to manufacturer instructions and store policy. 3.3. Enter data accurately and within designated time limits.

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- planning and organising skills to complete tasks in set timeframe
- problem solving skills to deal with different types of transactions
- literacy and numeracy skills to:
 - read store procedures for operating equipment
 - enter data
 - perform point-of-sale transactions
 - follow common fault-finding procedures

Required knowledge

- store policy and procedures in regard to:
 - the operation and maintenance of store retail equipment
 - reporting problems and faults
- relevant legislation and statutory requirements in regard to operating retail technology, including Work Health and Safety (WHS) requirements
- relevant industry codes of practice
- purpose and impact of using electronic technology
- licensing requirements for carrying and moving merchandise (if applicable)

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- operates a range of store retail equipment according to store policy and procedures and industry codes of practice
- operates and maintains a range of store retail equipment according to manufacturer instructions and design specifications
- applies store maintenance program and reports faults and problems
- consistently applies safe working practices in the operation and maintenance of store retail equipment according to OHS legislation and codes of practice
- reads and interprets operation manuals to solve routine faults and errors and maintains and uses equipment effectively
- uses keyboard skills to enter and edit data accurately
- completes tasks in set timeframe.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated work environment
- relevant documentation, such as:
 - store policy and procedure manuals
 - manufacturer instructions and operation manuals
- a range of store retail equipment.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- a role play
- third-party reports from a supervisor
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Equipment may include:

- point-of-sale terminals
- electronic bar coding equipment for price labelling and stocktaking
- portable data entry
- printers
- EFTPOS terminals
- electronic ordering equipment
- wrapping and packing equipment
- equipment for carrying or moving merchandise
- equipment for storage of merchandise, including refrigerators
- weighing machines
- thermometers
- security tag systems
- trolley return equipment
- computers
- scanners
- numerical keyboard equipment, including calculators.

Safety requirements may include:

- hazard identification (e.g. workplace inspections)
- emergency, fire and accident procedures
- personal safety procedures
- stress management
- procedures for the use of personal protective clothing and equipment
- reporting incidents and accidents in the workplace.

Relevant personnel may include:

- supervisor
- team leader
- manager.

Store policy and procedures in regard to:

- store administration
- clerical systems
- operating and maintaining retail equipment
- Work Health and Safety (WHS).

Unit Sector(s)

Cross-Sector

Competency field

Computer Operations and ICT Management

SIRXICT303 Operate retail information technology systems

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
First Release	This is a revised unit, based on and equivalent to SIRXICT003A Operate retail information technology systems.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to operate information technology systems, resolve system faults, perform point-of-sale system transactions, and safely and securely store electronic information according to store policy and procedures and relevant legislation. It involves understanding the operation of hardware and software in use, editing and updating information, and solving problems in relation to hardware and software.

Application of the Unit

This unit applies to managerial or supervisory staff with a responsibility to operate store information technology systems in a retail environment.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Use store information technology system.	<p>1.1. Demonstrate operation of store <i>information technology system</i> to <i>staff members</i> according to <i>store policy and procedures</i>, as required.</p> <p>1.2. Identify and operate <i>hardware</i> and <i>software</i> according to manufacturer instructions and store policy and procedures.</p> <p>1.3. Interpret the <i>application and uses</i> of information technology systems available.</p> <p>1.4. Transmit data according to electronic data interchange (EDI) procedures as required.</p> <p>1.5. Use keyboard skills to enter <i>information</i> accurately and as required by store policy.</p> <p>1.6. Regularly perform <i>back-up procedures</i> according to store policy.</p>
2. Edit and update information.	<p>2.1. Identify information to be edited and updated according to store procedures.</p> <p>2.2. Edit and update information on system according to store policy and procedures.</p> <p>2.3. Identify and enter price changes into store system as required.</p> <p>2.4. Ensure shelf data price and computer records match according to store policy.</p>
3. Solve information technology system problems.	<p>3.1. Identify equipment, hardware and software <i>faults</i> and rectify where possible or seek expert assistance without delay.</p> <p>3.2. Monitor and implement maintenance program for hardware and software systems according to manufacturer specifications and store procedures.</p> <p>3.3. Handle routine problems using appropriate <i>problem-solving techniques</i> and refer to <i>relevant personnel</i> as required.</p> <p>3.4. Evaluate and resolve problems arising at point of sale according to store procedures and <i>relevant legislation</i>.</p> <p>3.5. Provide assistance positively and actively to staff as problems arise.</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication and interpersonal skills to:
 - ask questions to identify and confirm requirements
 - convey knowledge of store technology system to other staff members
 - provide assistance to staff through clear and direct communication
 - refer problems to appropriate personnel
 - share information
 - use and interpret non-verbal communication
 - use language and concepts appropriate to cultural differences
- literacy and numeracy skills to process and record information
- technology skills to:
 - apply and use hardware and software
 - use store technology information systems

Required knowledge

- manufacturer specifications in regard to operation of hardware and software
- problem-solving techniques
- relevant industry codes of practice
- relevant legislation and statutory requirements, including:
 - consumer law
 - credit procedures
- software licensing specifications
- store policy and procedures in regard to use and operation of store information technology systems, including:
 - efficient and sustainable use of resources
 - work health and safety (WHS) and ergonomic requirements
 - operation of equipment
 - solutions to problems and breakdowns
 - use and maintenance of hardware and software systems
- store products and services range, including pricing structure

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- applies store policy and procedures in regard to information technology systems, including:
 - resolving system faults
 - using and applying store credit and EFTPOS
 - reviewing and entering information on store system
- follows requirements of relevant legislation and statutory requirements, including Australian consumer law and credit procedures.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated retail work environment
- hardware and software instruction manuals
- information technology system
- relevant documentation, such as:
 - store or sample policy and procedures on management of information technology systems
 - legislation and statutory requirements
 - WHS requirements
 - industry codes of practice.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- role play
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the individual, accessibility of the item, and local industry and regional contexts) may also be included.

- Information technology system*** used may be:
- centrally based
 - store-based
 - networked.
- Staff members*** may be:
- full-time, part-time or casual
 - under contract
 - people with varying degrees of language and literacy
 - people from a range of cultural, social and ethnic backgrounds
 - people with a range of responsibilities and job descriptions.
- Store policy and procedures*** in regard to:
- efficient and sustainable use of resources
 - information technology systems
 - WHS
 - processing sales orders.
- Hardware*** may include:
- bar coding
 - hand-held pricing equipment
 - personal computers or terminals (stand-alone or networked)
 - point-of-sale terminals
 - scanning equipment.
- Software*** may include:
- databases
 - EDI
 - financial
 - spreadsheets
 - word processing.
- Application and uses*** may include:
- arrangement of credit for customer via a third party
 - credit checks for granting of credit or loans
 - customer records
 - electronic cataloguing
 - financial management
 - individual, department or item sales performance analysis
 - inventory control
 - point-of-sale operations, including:
 - credit cards
 - EFTPOS
 - loyalty cards

- online sales
 - smart cards
 - pricing and price changes
 - staff payroll, from staff log-in and log-out information
 - staff rosters
 - stock transfers and delivery
 - use of internet facilities
 - use of multimedia.
- Information** may include:
- customer details or records, including:
 - names
 - contact details
 - consumer information or profiles
 - orders
 - price changes
 - staffing information
 - stock records
 - stock transfers.
- Back-up procedures** may include:
- CD
 - digital tape
 - DVD
 - external hard drive
 - off-site data storage
 - zip disc.
- Faults** may include:
- hardware faults or breakdowns
 - point-of-sale functionality problems, such as:
 - cheque clearances
 - credit facilities
 - EFTPOS
 - pricing variations
 - software functionality problems
 - staff error or lack of training.
- Problem-solving techniques** may include:
- following routine procedures or manufacturer recommendations
 - lateral thinking
 - referral to:
 - operator
 - manager
 - specialist.
- Relevant personnel** may include:
- manager
 - supervisor
 - team leader

Relevant legislation
may include:

- technical specialist.
- consumer law
- credit procedures
- WHS.

Unit Sector(s)

Cross-Sector

Competency Field

Computer Operations and ICT Management

SIRXINV001A Perform stock control procedures

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
Second Release	Editorial updates

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to handle stock in a retail environment. It involves receiving and processing incoming goods, rotating stock and dispatching goods.

Application of the Unit

This unit applies to team members who handle and move stock, to ensure efficient stock control within the retail environment. Team members are required to receive and process incoming goods, dispatch outgoing goods, rotate stock and maintain stock levels, assist with stocktaking, and report problems or discrepancies in stock to relevant personnel according to store policy and relevant legislation, whilst using safe working practices.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Receive and process incoming goods.	<p>1.1. Maintain cleanliness and orderliness in receiving bay according to <i>store policy and procedures</i>.</p> <p>1.2. Unpack goods using correct <i>handling techniques</i> and <i>equipment</i>, according to store policy.</p> <p>1.3. Remove and promptly dispose of packing materials, according to store policy and relevant <i>legislative requirements</i>.</p> <p>1.4. Check incoming stock and validate against purchase orders and delivery documentation, according to store policy and relevant legislative requirements.</p> <p>1.5. Inspect items received for damage, quality, use by dates, breakage or discrepancies and record, according to store policy.</p> <p>1.6. Record stock levels on store <i>stock systems</i>, according to store policy.</p> <p>1.7. Rotate and store stock, according to the first in first out (FIFO) principle.</p> <p>1.8. Dispatch stock to appropriate area or department.</p> <p>1.9. Apply stock price and code labels when required according to store policy.</p>
2. Rotate stock.	<p>2.1. Carry out stock rotation procedures, according to store routine and policy.</p> <p>2.2. Perform store code checking and reporting procedures, including recording of waste and markdowns.</p> <p>2.3. Place merchandise to achieve a balanced, fully stocked display appearance and promote sales.</p> <p>2.4. Place excess stock in storage or dispose of, according to store policy and legislative requirements.</p> <p>2.5. Maintain safe lifting, shifting and carrying techniques according to store Work Health and Safety (WHS) policy and legislative requirements.</p>

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- literacy and numeracy skills to:
 - follow set routines and procedures
 - use electronic labelling and ticketing equipment
 - stock records and delivery documentation
 - report problems

Required knowledge

- store policy and procedures in regard to:
 - stock control
 - store labelling policy
 - product quality standards
 - correct unpacking of goods
 - out-of-date, missing or damaged stock
 - equipment used
 - stock location
 - waste disposal
 - methods of storage
 - delivery documentation
 - stock record documentation
 - dispatch documentation
 - reporting faults and problems
- relevant legislation and statutory requirements in regard to stock control, including WHS
- relevant industry codes of practice

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently applies store policy and procedures, industry codes of practice, relevant legislation and statutory requirements in regard to stock control
- consistently applies safe working practices in the manual handling and moving of stock according to WHS legislation and store policy
- interprets and applies manufacturer instructions with regard to handling stock and using relevant equipment
- receives and processes incoming goods and dispatches outgoing goods according to store policy and procedures
- rotates stock and performs out-of-code checking and reporting according to store policy and procedures
- interprets and processes information accurately and responsibly.

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- relevant equipment, including:
 - stock moving equipment
 - manual and electronic labelling and ticketing equipment
- computers and stock recording equipment
- relevant documentation, such as:
 - invoices, packing slips, dispatch documents and order forms
 - recording and tally sheets
 - store policy and procedures manuals
 - WHS regulations
 - relevant legislation and statutory requirements
 - industry codes of practice.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- third-party reports from a supervisor
- written or verbal questioning to assess knowledge and

	<ul style="list-style-type: none"> • understanding • review of portfolios of evidence and third-party workplace reports of on-the-job performance.
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:</p> <ul style="list-style-type: none"> • SIRXCCS001A Apply point-of-sale handling procedures • SIRXRSK001A Minimise theft • SIRXCCS002A Interact with customers • SIRXFIN001A Balance point-of-sale terminal.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Store policy and procedures may relate to:

- stock control
- reception and dispatch
- WHS
- food safety.

Handling techniques may vary according to:

- stock characteristics
- industry codes of practice
- legislative requirements.

Equipment may include:

- electronic bar coding equipment
- weighing machines
- thermometers
- trolley return equipment
- portable data entry
- cutting equipment
- protective clothing.

Legislative requirements may include:

- WHS
- hazardous substances and dangerous goods
- labelling of workplace substances
- waste removal and environmental protection
- transport, storage and handling of goods.

Stock systems may be:

- manual
- electronic.

Unit Sector(s)

Cross-Sector

Competency field

Inventory

SIRXINV002A Maintain and order stock

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
Second Release	Editorial updates

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to maintain and order stock in a retail environment. It involves monitoring receipt and dispatch of goods, maintaining stock records, coordinating stocktake, identifying stock losses, processing orders and following up on orders.

Application of the Unit

This unit applies to retail staff who are responsible for monitoring and coordinating stock levels, storage, distribution and reorder cycles. It includes rostering staff, organising and coordinating stocktakes, maintaining accurate records and routinely reporting on inventory status to relevant personnel according to store policy and procedures.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Monitor receipt and dispatch of goods.	<p>1.1. Delegate responsibility for receipt and dispatch of goods to <i>appropriate staff</i>.</p> <p>1.2. Implement store procedures in regard to receipt, dispatch and secure storage of goods.</p> <p>1.3. Observe <i>staff</i> functions to ensure store procedures are followed and documentation is completed correctly.</p> <p>1.4. Implement store procedures to ensure goods inspected for quantity and quality on receipt.</p> <p>1.5. Act upon variations to quantity and quality of delivered goods, according to <i>store policy and procedures</i>.</p> <p>1.6. Supervise safe <i>handling and storage of goods</i>, according to store policy.</p>
2. Maintain stock records.	<p>2.1. Monitor and maintain stock levels at required levels.</p> <p>2.2. Maintain, monitor and adjust stock reorder cycles as required.</p> <p>2.3. Inform team members of their individual responsibilities in regard to recording of stock.</p> <p>2.4. Maintain stock storage and movement <i>records</i>, according to store policy.</p> <p>2.5. Record stock discrepancies and follow procedures according to store policy.</p> <p>2.6. Monitor stock performance and identify and <i>report</i> fast and slow selling items according to store policy.</p>
3. Coordinate stocktake or cyclical count.	<p>3.1. Interpret policy and procedures in regard to <i>stocktaking</i> and cyclical counts and explain to team members.</p> <p>3.2. <i>Roster</i> staff, according to allocated budget and time constraints.</p> <p>3.3. Allocate stocktaking tasks to individual team members.</p> <p>3.4. Provide team members with clear directions for the performance of each task.</p> <p>3.5. Allocate team members to ensure effective use of staff resources to complete task.</p> <p>3.6. Produce accurate reports on stocktake data, including discrepancies, for management.</p>

- 4. Identify stock losses.
 - 4.1. Identify, record and assess losses against potential loss forecast on a regular basis.
 - 4.2. Identify avoidable losses and establish reasons.
 - 4.3. Recommend and implement possible solutions.
- 5. Process orders.
 - 5.1. Process and raise orders for stock as requested, according to store policy and procedures.
 - 5.2. Maintain ***ordering and recording system***.
 - 5.3. Ensure availability of sample range, according to buying plan.
 - 5.4. Order pricing materials as required.
 - 5.5. Record negotiated purchase and supply agreements and file for retrieval.
- 6. Follow up orders.
 - 6.1. Monitor delivery process to meet agreed deadlines.
 - 6.2. Handle routine supply problems or refer to management as required by store policy.
 - 6.3. Maintain ongoing liaison with buyers, store or departments, warehouse and ***suppliers*** to ensure continuity of supply.
 - 6.4. Distribute stock, according to store or department allocation.

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- technical skills to:
 - use store stocktaking systems
 - use electronic recording equipment
- interpersonal skills to:
 - inform team members of their responsibilities and give instructions
 - explain policies and procedures to staff
 - allocate tasks and provide directions for performance of tasks
 - liaise with buyers, store and departments, warehouse and suppliers through clear and direct communication
 - ask questions to identify and confirm requirements
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication
- management skills to coordinate stock takes
- negotiation skills to handle supply problems
- literacy and numeracy skills to:
 - prepare and present stock control reports and documentation
 - process orders
 - maintain delivery and supply records
 - maintain stock distribution records
 - maintain stock ordering and recording systems

Required knowledge

- store policy and procedures in regard to:
 - stock control
 - store merchandising system
 - current and future stock levels
 - bar codes, labels and price tags
 - store stock recording system
 - stock replenishment and reorder procedures
 - inter- and intra-store and department transfers
 - reporting of stock discrepancies and damage
 - identifying and recording stock losses
 - identifying and recording discrepancies
 - existing suppliers
 - quality control procedures and requirements
 - receipt and dispatch of goods, including inspection for quality and quantity

- relevant licensing requirements for moving stock mechanically
- relevant legislation and statutory requirements
- relevant industry codes of practice
- relevant Work Health and Safety (WHS) legislation and codes of practice

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently implements and monitors store policy and procedures regarding receipt, dispatch and secure storage of goods
- regularly monitors staff implementation of store procedures and documentation in regard to receipt, dispatch and secure storage of goods
- monitors stock levels, storage, movement and reorder cycles on a regular basis.
- organises and coordinates stocktake according to store policy and procedures
- consistently raises and processes stock orders and maintains record system according to store policy and procedures
- monitors delivery processes and distributes stock to ensure continuity of supply.

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- relevant documentation, such as:
 - store policy and procedures for receipt and dispatch of goods
 - store procedures for stocktake
 - WHS legislation and codes of practice
 - industry codes of practice
 - legislation and statutory requirements
 - store merchandising and marketing policy and procedures
 - inter- and intra-store and department transfer procedures
 - store quality control procedures and requirements.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- third-party reports from a supervisor
- written or verbal questioning to assess knowledge and understanding

**Guidance information for
assessment**

- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

- Appropriate staff*** may include:
- frontline staff
 - relevant managers
 - supervisor
 - team leader
 - specialist staff.
- Staff*** may include:
- full-time, part-time, casual or contract staff
 - people from a range of social, cultural and ethnic backgrounds
 - people with varying degrees of language and literacy levels.
- Store policy and procedures*** in regard to:
- stock control
 - stock control system
 - recording procedures
 - procedures for investigating discrepancies
 - store merchandise and marketing
 - pricing, labelling and packaging requirements
 - quality control policy and procedures.
- Handling and storage of goods*** may vary according to:
- stock characteristics
 - industry codes of practice.
- Records*** may be:
- manual
 - digital.
- Reports*** for management may include:
- financial reports
 - business documents
 - informal reports
 - stocktake reports.
- Stocktaking*** may be:
- cyclical
 - compliance driven.
- Roster*** may include:
- varying levels of staff training
 - staffing levels
 - routine or busy trading conditions
 - full-time, part-time or casual staff
 - range of staff responsibilities.
- Ordering and recording system*** may be:
- manual
 - digital.
- Suppliers*** may include:
- existing contacts
 - new contacts

- local suppliers
- overseas supplies.

Unit Sector(s)

Cross-Sector

Competency field

Inventory

SIRXMER201 Merchandise products

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
First Release	This is a revised unit, based on and equivalent to SIRXMER001A Merchandise products.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to merchandise products within a retail store. It involves the consistent application of store policies and procedures in regard to displaying, merchandising, ticketing, labelling, pricing and storing stock. It also includes the application of correct manual handling, storage and display techniques according to stock characteristics, industry codes of practice, and relevant legislation.

Application of the Unit

This unit applies to frontline retail personnel.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Place and arrange merchandise.	1.1.Unpack <i>merchandise</i> according to <i>store policy and procedures</i> and <i>legislative requirements</i> . 1.2.Place merchandise on floor, fixtures and shelves in determined locations according to work health and safety (WHS) legislative requirements. 1.3. <i>Display</i> merchandise to achieve a balanced, fully-stocked appearance and promote sales. 1.4.Identify damaged, soiled or out-of-date stock and take corrective action as required according to store procedures. 1.5.Place stock range in line with fixtures, ticketing, prices and bar codes. 1.6.Rotate stock according to stock requirements and store procedure. 1.7.Ensure stock presentation conforms to special <i>handling techniques</i> and other <i>safety requirements</i> .
2. Prepare and apply labels and tickets.	2.1.Prepare <i>labels and tickets</i> for window, wall or floor displays according to store policy. 2.2.Prepare tickets using electronic equipment or neatly by hand according to design specifications and store procedures. 2.3.Identify soiled, damaged, illegible or incorrect labels and tickets and take corrective action according to store procedures. 2.4.Use, maintain and store electronic ticketing and labelling equipment according to manufacturer's instructions and store procedures. 2.5.Place labels and tickets visibly and correctly on merchandise. 2.6.Replace labels and tickets according to store policy.
3. Maintain displays.	3.1.Reset or dismantle unsuitable or out-of-date displays and <i>special promotion areas</i> as directed. 3.2.Assist supervisor in selection of merchandise for display. 3.3.Arrange and face up merchandise as directed and according to layout specifications and load-bearing capacity of fixtures. 3.4.Maintain correct pricing and information on merchandise according to store procedures, industry codes of practice and

- legislative requirements.
- 3.5. Identify optimum stock levels and replenish stock according to store policy.
- 3.6. Remove excess packaging and maintain display areas in a clean and tidy condition.
- 4. Protect merchandise.
 - 4.1. Identify and apply correct handling, storage and display techniques according to stock characteristics and legislative requirements.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- literacy and numeracy skills to:
 - prepare machine or manual labels and tickets
 - read and interpret store procedures and guidelines
 - read and interpret manufacturer instructions
- self-management skills to complete tasks in a set timeframe
- technology skills to operate and maintain manual and electronic labelling and ticketing equipment

Required knowledge

- store policies and procedures in regard to:
 - availability and use of display materials
 - correct storage of stock
 - correct storage procedures for labelling and ticketing equipment and materials
 - location of display areas
 - merchandise range
 - merchandising, ticketing and pricing of stock
 - scheduling for building or rotating displays
 - stock replenishment
 - stock rotation
 - store promotional themes, including advertising, catalogues and special offers
- correct manual handling techniques for protection of self and merchandise
- principles of display
- elements and principles of design and trends in retail design
- relevant WHS regulations, including:
 - manual handling
 - hygiene and sanitation
 - hazardous substances
 - labelling of workplace substances
- relevant legislation and statutory requirements relating to merchandising product
- pricing procedures, including inclusion and exclusion of GST
- relevant industry codes of practice relating to merchandising product

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- applies store policies and procedures and legislative requirements in regard to displaying, merchandising, ticketing, pricing and storing stock
- displays merchandise on floor, fixtures, shelves and display areas, in determined locations, according to special manual handling techniques and other safety requirements
- prepares display labels and price tickets for merchandise with regard to store policies and procedures
- operates, maintains and stores a range of ticketing equipment according to:
 - store policy and procedures
 - industry codes of practice
 - manufacturer instructions and design specifications
- identifies damaged, soiled or out-of-date stock and takes corrective action as required by store procedures and legislative requirements
- maintains display areas and replenishes stock as required according to store procedures and legislative requirements
- performs correct manual handling, storage and display techniques.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated retail work environment
- a range of ticketing and pricing equipment
- merchandise for display
- display materials and props
- cleaning materials
- relevant documentation, such as:
 - store policy and procedure manuals on housekeeping, merchandising and WHS
 - manufacturer instructions and operation manuals for electronic ticketing equipment
 - relevant legislation and industry codes of practice.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SIRXSLS201 Sell products and services
- SIRXSLS002A Advise on products and services.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the individual, accessibility of the item, and local industry and regional contexts) may also be included.

Merchandise may be characterised by:

- type
- brand
- size
- customer needs
- colour
- price.

Store policy and procedures in regard to:

- merchandising of stock
- preparing and displaying labels and tickets
- maintaining displays.

Legislative requirements may include:

- pricing requirements, including GST requirements
- industry codes of practice
- discounted items
- Australian Consumer law.

Display may include:

- setting new displays
- maintaining existing displays.

Handling techniques may vary according to:

- stock characteristics
- store policy
- legislative requirements
- industry codes of practice.

Safety requirements may relate to:

- transport, storage and handling of goods
- hazardous substances
- labelling of workplace substances.

Preparation of ***labels and tickets*** may involve:

- pricing gun
- shelf tickets
- shelf talkers
- written labels
- swing ticketing
- bar coding
- price boards
- header boards.

Special promotion areas may be:

- permanent or temporary
- interior or exterior
- publicly accessible
- windows

- shelves
- wall fixtures
- on floor.

Unit Sector(s)

Cross-Sector

Competency Field

Merchandising

SIRXMPR006A Manage promotional activities

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
Second Release	Editorial updates

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to establish and manage promotional activities for a business, working with a business customer that will in turn service end consumers.

Application of the Unit

This unit applies to personnel who are responsible for management of promotional activities to agreed targets across a specified geographic, market, product or service. This includes setting planning and review benchmarks and establishing mechanisms to collect, analyse and report promotional program data to relevant personnel.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Manage promotional program objectives and content.	1.1. Manage <i>promotional programs</i> to achieve consistent <i>business outcomes</i> . 1.2. Ensure promotional programs support price strategies. 1.3. Resolve timing <i>conflicts and problems</i> across promotional programs and advertising campaigns.
2. Coordinate promotional activities.	2.1. Achieve input from <i>relevant personnel</i> in preparation of promotional program. 2.2. Correctly establish required promotional program <i>outcomes</i> . 2.3. Establish processes for collecting and reporting <i>information</i> on promotional programs cooperatively with relevant personnel and <i>customers</i> .
3. Monitor promotional programs.	3.1. Configure specific business <i>systems</i> to record promotional program outcomes. 3.2. Systematically analyse and compare information on progress of promotional programs. 3.3. Configure business systems to record and report promotional program data to agreed level of detail and format.

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- Planning and management skills to:
 - manages, coordinates and monitors promotional activities
 - resolves timing conflicts
 - sets promotional plan review mechanisms
 - adheres to and achieves planned outcomes
 - establishes accurate reporting and recording systems
 - sets outcomes and targets covering:
 - sales and service standards
 - volume
 - revenue and profit
 - promotional budget (promotional costs and expenditure)
 - customer satisfaction
 - distribution arrangements
 - market mix
- interpersonal skills to:
 - achieve input from relevant personnel through clear and direct communication
 - ask questions to identify and confirm requirements
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication
- literacy skills to:
 - research, analyse and interpret a broad range of written material
 - prepare reports
 - documenting results
- numeracy skills to:
 - interpret and maintain data
 - estimate volume
 - calculate costs and pricing arrangements

Required knowledge

- processes for collecting and reporting information
- planned targets in:
 - strategy
 - business
 - sales
 - marketing or merchandise

- business technology and systems management using for marketing activities
- use and maintenance of electronic equipment
- planning and organising
- relevant commercial law and legislation in regarding to marketing and promotion

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently manages promotional plans to agreed targets over time across a specified geographic, market, product or service
- sets promotional planning and review benchmarks
- establishes procedures and mechanisms to collect, analyse and report promotional program data
- coordinates promotional activities to achieve agreed targets.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated work environment
- relevant documentation, such as:
 - business policy and procedures manuals
 - sales and service delivery targets and plans
 - records of sales
 - legislation and statutory requirements
 - industry codes of practice
- a market.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of the candidate in the workplace
- third-party reports from a supervisor
- customer feedback
- a detailed case study
- written or verbal questioning to assess knowledge and understanding
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Promotional programs may vary to accommodate territory variations in:

- demographics
- economics
- competition
- social and cultural factors
- political influences
- legal factors
- natural factors
- technology.

Business outcomes must include:

- sales revenue
- price
- trade expenditure
- distribution
- promotion frequency
- category or market share
- account profit
- brand recognition.

Promotional ***conflicts and problems*** may relate to:

- timing of promotion
- promotion type (event, seasonal, new lines, new store)
- supplying volume requirements
- business customer planning times and cycles.

Relevant personnel may include:

- managers
- staff
- members of own or other work teams.

Details of required ***outcomes*** must include:

- sales and service standards
- volume
- revenue and profit
- promotional budget (promotional costs and expenditure)
- customer satisfaction
- distribution arrangements
- marketing mix
- market share.

Sources of information may

- contacts with others inside or outside the business

include:

- customers
- staff
- financial and inventory reports
- statistics
- observation
- market research.

Customers may include:

- new or repeat contacts
- external and internal contacts
- business customers or individuals
- customers with routine or special requests
- people from a range of social, cultural and ethnic backgrounds and with varying physical and mental abilities.

Systems to record and report promotional program data may include:

- contact history
- purchase requests and orders
- tender submissions and proposals
- invoices and payment requests
- statements and petty cash vouchers
- offer and contract documents
- evaluation process documentation
- records of supplier performance
- financial statements.

Unit Sector(s)

Cross-Sector

Competency field

Marketing and Public Relations

SIRXRSK001A Minimise theft

Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit describes the performance outcomes, skills and knowledge required to minimise theft in a retail environment. It involves applying routine store security, taking appropriate action to minimise theft and maintaining security of cash, registers or terminals and keys.

Application of the Unit

Application of the unit This unit applies to frontline service personnel. It requires the team member to apply store policy and procedures and industry codes of practice in regard to store security and theft prevention, reporting theft or suspicious behaviour to relevant personnel and monitoring stock, work areas, customers and staff to minimise opportunities for theft.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Apply routine store security.	1.1 Apply store <i>security systems and procedures</i> according to store policy. 1.2 Handle and secure cash according to <i>store policy and procedures</i> . 1.3 Observe and deal with suspect behaviour by <i>customers</i> according to store policy and <i>legislative requirements</i> . 1.4 Deal with internal and external theft according to store policy and legislative requirements. 1.5 Store products and equipment in a secure manner.
2 Minimise theft.	2.1 Take appropriate action to minimise theft by applying store procedures and legislative requirements. 2.2 Match merchandise to correct price tags. 2.3 Maintain surveillance of merchandise according to store policy and <i>legislative requirements</i> .

ELEMENT

PERFORMANCE CRITERIA

- 2.4 Check customers' bags as required at point of sale according to store policy and legislative requirements.
- 2.5 Maintain security of cash, cash register and keys according to store policy.
- 2.6 Maintain security of stock, cash and equipment in regard to customers, *staff* and outside contractors according to store policy and legislative requirements.
- 2.7 Deal with suspected or potential thieves according to store policy and procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- literacy and numeracy skills in:
 - recording of stolen items
 - reporting of theft.

The following knowledge must be assessed as part of this unit:

- store policy and procedures in regard to:
 - security
 - checking customers' bags and purchases
 - reporting problems and faults
- relevant legislation and statutory requirements, particularly in regard to checking customers' bags and purchases
- Trade Practices and Fair Trading Acts
- store merchandising system
- security procedures relating to cash and non-cash transactions
- location and operation of store security equipment
- reporting procedures for internal and external theft or suspicious circumstances.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently applies store policy and procedures and legislative requirements, including industry codes of practice in regard to store security and theft prevention in a range of contexts and situations
- consistently applies store policy and procedures in regard to following security procedures and for reporting theft or suspicious behaviour to relevant personnel
- monitors stock, work area, customers and staff to minimise opportunities for theft.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated work environment
- relevant documentation, such as:
 - store policy and procedures manuals
 - legislation and statutory regulations
 - industry codes of practice
 - Trade Practices and Fair Trading Acts
- relevant security equipment
- point-of-sale equipment.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of performance in the workplace
- a simulated work environment
- third-party reports from a supervisor
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SIRXCCS001A Apply point-of-sale handling procedures
- SIRXCCS002A Interact with customers
- SIRXINV001A Perform stock control procedures
- SIRXFIN001A Balance point-of-sale terminal.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically in the context of the job role and with other relevant units that make up the skill set or qualification.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

RANGE STATEMENT

Security systems and procedures may deal with:

- customers
- staff
- keys
- visitors, sales representatives, contractors and vendors
- stock
- records
- cash, credit cards
- equipment, including:
 - alarm systems
 - video surveillance
 - mirrors
 - security tags
- locked and secure areas
- premises
- armed hold-up.

Store policy and procedures may relate to:

- security
- surveillance of merchandise
- reporting problems and faults.

Customers may include:

- people from a range of social, cultural and ethnic backgrounds and with varying physical and mental abilities.

Legislative requirements may include:

- privacy and confidentiality laws
- Trade Practices and Fair Trading Acts
- consumer law
- awards and agreements
- property offences
- credit laws
- reporting procedures
- criminal law.

RANGE STATEMENT

Staff may include:

- management
- other staff members
- full-time, part-time and casual staff
- people from a range of social, cultural and ethnic backgrounds and with varying physical and mental abilities.

Unit Sector(s)

Sector

Cross-Sector

Competency field

Competency field

Risk Management and Security

SIRXRSK002A Maintain store security

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
Second Release	Editorial updates

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to maintain store security in a retail environment. It involves implementing store policy and procedures to ensure store security, informing team members and providing ongoing supervision and training to facilitate awareness and detection of theft.

Application of the Unit

This unit applies to team leaders and supervisors who interpret, apply and monitor security procedures according to store policy, industry codes of practice, relevant legislation and statutory requirements. A person undertaking this role maintains frontline security as well as reporting security concerns and providing ongoing supervision and training for staff on security procedures.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance Criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Monitor and maintain store security.	<p>1.1. Implement <i>store policy and procedures</i> to ensure store security is maintained.</p> <p>1.2. Monitor and review <i>security procedures</i>, according to store policy and <i>legislative requirements</i>.</p> <p>1.3. Implement procedures to minimise theft of easily stolen merchandise.</p> <p>1.4. Maintain security of cash, cash register and keys according to store policy.</p> <p>1.5. Implement store procedures in regard to <i>transactions</i>.</p> <p>1.6. Inform <i>team members</i> of store policy and procedures in regard to security.</p> <p>1.7. Provide team members with <i>feedback</i> in regard to implementation or non implementation of store security procedures.</p> <p>1.8. Provide staff with ongoing supervision and <i>training</i> to facilitate awareness and detection of theft.</p> <p>1.9. <i>Report</i> matters likely to affect store security, according to store policy.</p>
2. Facilitate awareness and detection of theft.	<p>2.1. Inform <i>team members</i> of store policy and procedures in regard to security.</p> <p>2.2. Provide team members with <i>feedback</i> in regard to implementation or non implementation of store security procedures.</p> <p>2.3. Provide staff with ongoing supervision and <i>training</i> to facilitate awareness and detection of theft.</p>

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- interpersonal skills to:
 - provide information, feedback and training to staff
 - report relevant matters through clear and direct communication
 - ask questions to identify and confirm requirements
 - share information
 - give instructions
 - use and interpret non-verbal communication
 - provide team leadership
- literacy skills to:
 - interpreting and applying Work Health and Safety (WHS) documents
 - reporting procedures
 - analytical skills to evaluate performance analysis

Required knowledge

- store policy and procedures in regard to:
 - security
 - cash and non-cash transactions
 - external or internal theft
 - suspicious circumstances
 - armed robbery
 - staff security training
 - procedures for opening and closing premises
- relevant legislation and statutory regulations, particularly in relation to checking of customers' bags and purchases
- types of store alarm and security systems used in the retail industry

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently applies store policy and procedures, industry codes of practice, relevant legislation and statutory requirements in regard to store security
- accurately applies relevant legislation and statutory regulations particularly in regard to checking of customers' bags and purchases
- interprets, applies and monitors security procedures in regard to:
 - cash handling, and cash and non-cash transactions
 - internal or external theft or suspicious circumstances
 - armed robbery
 - opening and closing premises
- implements store policy and procedures in regard to:
 - reporting on matters related to store security
 - staff security supervision and training.

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- relevant documentation, such as:
 - store policy and procedures in regard to security
 - legislation and statutory requirements
 - WHS legislation
- relevant equipment such as:
 - alarm systems
 - point-of-sale equipment
 - communication equipment.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- third-party reports from a supervisor
- observation of performance in the workplace
- a role play

- customer feedback
- written or verbal questioning to assess knowledge and understanding
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SIRXOHS002A Maintain store safety.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Store policy and procedures in regard to:

- security
- checking bags
- cash and non-cash transactions
- surveillance of merchandise
- reporting problems and faults.

Security procedures may deal with:

- customers
- staff or staff property
- visitors, sales representatives, contractors and vendors
- stock
- records
- cash and cash movement
- equipment
- premises
- opening and closing of premises
- theft
- armed robbery
- events likely to endanger customers or staff.

Legislative requirements may include:

- privacy or confidentiality laws
- Trade Practices and Fair Trading Acts
- consumer law
- awards or agreements
- property offences
- credit laws
- reporting procedures
- criminal law.

Transactions may include:

- cash
- EFTPOS
- cheques
- credit cards or store cards
- smart cards
- lay-by
- returns
- exchanges

- Team members** may include:
- gift vouchers.
 - small work teams
 - store team
 - corporate team
 - full-time, part-time, casual or contract staff
 - people with varying degrees of language and literacy
 - people from a range of cultural, social and ethnic backgrounds
 - people with a range of responsibilities and job descriptions.
- Feedback** may be given:
- verbally
 - in writing
 - in groups
 - individually.
- Training** may include:
- mentoring or coaching
 - off-the-job training
 - on-the-job training.
- Report** may be:
- verbal
 - written
 - formal
 - informal.

Unit Sector(s)

Cross-Sector

Competency field

Risk Management and Security

SIRXSL002A Advise on products and services

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
Second Release	Editorial updates

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to apply a depth of specialist or general product knowledge and a need for experience and skill in offering advice to customers.

Application of the Unit

This unit applies to team member who develop, maintain and convey detailed and specialised product knowledge to customers and other staff in accordance with store policy and relevant legislation. Specialist sales personnel undertake this function.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Elements

Elements describe the essential outcomes of a unit of competency.

1. Develop product and service knowledge.
2. Recommend specialised products or services.

Performance Criteria

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

- 1.1. Develop and maintain ***product knowledge*** according to ***store policy*** and ***legislative requirements***.
- 1.2. Convey product knowledge to other ***staff*** as required.
- 1.3. Research and apply comparisons between products and services.
- 1.4. Demonstrate knowledge of competitors' product and service range and ***pricing structure***.
- 2.1. Evaluate merchandise according to ***customer requirements***.
- 2.2. Demonstrate features and benefits of products and services to ***customer*** to create a buying environment.
- 2.3. Apply detailed specialised knowledge of product to provide accurate advice to customers.

Required Skills and Knowledge

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills

- interpersonal skills to:
 - convey product knowledge to staff
 - apply knowledge to provide advice to customers
 - handle difficult customers through clear and direct communication
 - ask questions to identify and confirm requirements
 - share information
 - use language and concepts appropriate to cultural differences
 - use and interpret non-verbal communication
- literacy skills in regard to:
 - use a range of communication and electronic equipment
 - access relevant product and service information
 - interpret product information
 - interpret store policies and procedures
 - record information
- numeracy skills to:
 - estimate and calculate costs relevant to pricing products

Required knowledge

- specialised product knowledge, including:
 - warranties
 - benefits and features
 - shelf life and use-by date
 - storage requirements
 - ingredients or materials contained in product
 - product and ingredient origins
 - care and handling of products
 - corresponding or complementary products and services
 - stock availability
- store and industry manuals and documentation
- stock and merchandise range
- service range
- store policies and procedures including:
 - procedures for taking orders
 - pricing procedures, including GST requirements
- relevant legislation and statutory requirements and industry code of practice relating to the retail industry

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- consistently applies store policies and procedures and industry codes of practice in regard to customer service and selling products and services
- develops, maintains and conveys product knowledge to customers and other staff
- applies detailed and specialised product knowledge to provide accurate advice according to the needs of the customer.

Context of and specific resources for assessment

Assessment must ensure access to:

- a retail work environment
- a range of stock and merchandise
- relevant documentation, such as:
 - price lists
 - policy and procedures manuals
- a range of customers with different requirements
- a range of communication equipment.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of the candidate in the workplace
- third-party reports from a supervisor
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Product knowledge may include:

- brand options
- product features and benefits
- warranties
- safety features
- use-by dates
- handling and storage requirements
- stock availability
- price.

Product knowledge may be developed and maintained by:

- accessing the internet
- attending product launches
- attending product seminars
- discussions with staff
- accessing product information booklets and pamphlets.

Store policy and procedures in regard to:

- interaction with customers
- selling products and services.

Legislative requirements may include:

- Trade Practices and Fair Trading Acts
- tobacco laws
- liquor laws
- lottery legislation
- industry codes of practice
- WHS
- sale of second-hand goods
- sale of X and R rated products
- trading hours
- transport, storage and handling of goods.

Staff may include:

- full-time, part-time or casual
- under contract
- people with varying degrees of language and literacy
- people from a range of cultural, social and ethnic backgrounds
- people with a range of responsibilities and job descriptions.

Customer requirements may include:

- specific brand
- sizing
- quality
- quantity
- price range
- usage.

Customers may include:

- new or repeat contacts
- external and internal contacts
- customers with routine or special requests
- people from a range of social, cultural and ethnic backgrounds and with varying physical and mental abilities.

Pricing structure may include:

- sales reductions
- pricing procedures, including GST requirements
- mark-downs.

Unit Sector(s)

Cross-Sector

Competency field

Sales

SIRXSLS201 Sell products and services

Modification History

The version details of this endorsed unit are in the table below. The latest information is at the top.

Release	Comments
First Release	This is a revised unit, based on and equivalent to SIRXSLS001A Sell products and services.

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to sell products and services in a retail environment.

It involves the use of sales techniques and encompasses key selling skills, from approaching the customer to closing the sale.

It requires a basic level of product knowledge and the recognition and demonstration of verbal and non-verbal communication skills to determine customer requirements, sell the benefits of products and services, overcome objections and close sales.

Personal evaluation is used to maximise sales, according to industry codes of practice, relevant legislation and store policy.

Application of the Unit

This unit applies to frontline sales personnel.

Licensing/Regulatory Information

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Develop and apply product knowledge.	<p>1.1. Develop <i>product knowledge</i> by accessing <i>relevant sources of information</i> and confirm with relevant staff.</p> <p>1.2. Apply knowledge of the use and application of relevant products and services in interactions with customers according to store policy and <i>legislative requirements</i>.</p> <p>1.3. Identify gaps in product knowledge and resolve by accessing relevant sources of information.</p>
2. Approach customer.	<p>2.1. Identify <i>customers</i> by name where possible.</p> <p>2.2. Develop knowledge of customer buying behaviour by accessing relevant sources of information.</p> <p>2.3. Determine and apply appropriate timing of customer approach according to store policy and customer behaviour.</p> <p>2.4. Initiate customer contact according to store policy.</p> <p>2.5. Convey a positive impression to encourage customer interest according to store policy.</p>
3. Gather and respond to information.	<p>3.1. Apply questioning techniques and listening skills to determine customer buying motives and requirements.</p> <p>3.2. Interpret and clarify non verbal communication cues.</p> <p>3.3. Direct customer to specific merchandise according to customer requirements and store policy.</p>
4. Sell benefits.	<p>4.1. Match customer needs to appropriate products and services.</p> <p>4.2. Communicate knowledge of product features and benefits clearly to customers.</p> <p>4.3. Describe product use and safety requirements to customers.</p> <p>4.4. Refer customers to appropriate product specialist as required.</p> <p>4.5. Answer <i>routine customer questions</i> about merchandise accurately and honestly or refer to senior sales staff.</p>
5. Overcome objections.	<p>5.1. Identify and acknowledge customer objections according to store policy.</p> <p>5.2. Categorise objections into price, time and merchandise characteristics and consider solutions.</p>

- 5.3. Offer solutions to customer objections according to store policy.
- 5.4. Apply *problem solving* within personal scope of responsibilities to overcome customer objections or refer to senior staff.
- 6. Close sale.
 - 6.1. Monitor, identify and respond appropriately to customer buying signals.
 - 6.2. Encourage customer to make purchase decisions.
 - 6.3. Select and apply appropriate method of closing sale.
- 7. Maximise sales opportunities.
 - 7.1. Recognise and apply opportunities for making additional *sales* according to store policy.
 - 7.2. Advise customer of complementary products or services according to customer's identified need.
 - 7.3. Review personal sales outcomes and consider strategies to maximise future sales in consultation with relevant staff.

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- communication and interpersonal skills to:
 - handle difficult customers
 - verbal and non-verbal communication skills to:
 - question, listen and observe
 - overcome objections and close sale
- literacy and numeracy skills to:
 - handle payments for goods
 - read product information
 - read store policies and procedures
 - record information
 - weigh and measure goods
- selling skills to use a range of selling techniques

Required knowledge

- customer types and needs, including:
 - customer behaviour and cues
 - customer buying motives
 - demographics, lifestyle and income
 - individual and cultural differences
 - types of customer needs, such as:
 - functional
 - psychological
- relevant industry codes of practice, legislation and statutory requirements relating to the sale of products and services
- selling techniques, including:
 - add-ons and complementary sales
 - closing techniques
 - opening techniques
 - overcoming customer objections
 - recognising buying signals
 - using strategies to focus customer on specific merchandise
- specific product knowledge for area or section
- store merchandise and service range
- store policies and procedures in regard to:
 - allocated duties and responsibilities
 - selling products and services and sales performance

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- applies product knowledge and uses appropriate sales approach to sell the benefits of products and services, overcome objections and close sales
- uses questioning, listening and observation skills to determine customer requirements
- applies store policies and procedures in regard to selling products and services
- maximises sales opportunities according to store policies and procedures
- applies industry codes of practice, relevant legislation and statutory requirements in regard to selling products and services
- evaluates personal sales performance to maximise future sales.

Context of and specific resources for assessment

Assessment must ensure access to:

- a real or simulated retail work environment
- relevant documentation, such as policy and procedures manuals
- a range of customers with different requirements
- a range of merchandise and products appropriate to the retail workplace
- product labels and sources of product information.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of the candidate in the workplace
- customer feedback
- answers to questions about specific skills and knowledge
- review of portfolios of evidence and third-party workplace reports of on-the-job performance.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the individual, accessibility of the item, and local industry and regional contexts) may also be included.

Product knowledge may include:

- features and benefits
- handling and storage requirements
- price
- safety features
- stock availability
- use-by dates
- warranties.

Relevant sources of information may include:

- demonstrations
- internet
- labels
- product profiles
- staff members
- store or supplier product manuals
- store tours
- videos.

Legislative requirements may include:

- industry codes of practice
- liquor laws
- lottery legislation
- work health and safety (WHS)
- sale of second-hand goods
- sale of X and R-rated products
- tobacco laws
- Australian consumer law and fair trading Acts
- trading hours
- transport, storage and handling of goods.

Customers may include:

- customers with routine or special requests
- internal and external contacts
- new or repeat contacts
- people from a range of social, cultural and ethnic backgrounds
- people with varying physical and mental abilities.

Routine customer questions may relate to:

- availability
- features and benefits
- price and price reductions

- Problem solving* may be affected by:
- quality.
 - resource implications
 - store policies and procedures.
- Sales transactions* may be completed:
- face-to-face
 - online
 - over the telephone.

Unit Sector(s)

Cross-Sector

Competency Field

Sales

SITHCCC001B Organise and prepare food

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to organise and prepare a variety of foods within the kitchen of a hospitality or catering operation. It requires the ability to use general food preparation techniques, contribute to the organisation's profitability through effective resource use and to minimise negative environmental impacts by reusing resources, recycling and using safe methods for disposing of kitchen waste.

The term 'organising and preparing food' is also referred to as 'mise en place' and includes basic preparation prior to serving food, which may involve cooking components of a dish but does not include the actual presentation.

This unit underpins effective performance in commercial cookery.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit This unit applies to hospitality and catering operations where food is prepared and served and may include the preparation of any food type, ingredients, style or cuisine inclusive of Asian cuisine and patisserie products.

This unit describes a key function for cooks and chefs working at any level. Their role may be operational, supervisory or managerial. Job roles include breakfast cook, short order cook, fast food cook, cook, chef, chef de partie, sous chef, executive chef, caterer, patissier and chef patissier.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite unit: SITXOHS002A Follow workplace hygiene procedures.

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Select, prepare and use equipment.	1.1 Select <i>knives and equipment</i> of the correct type and size for the job, and ensure that it is clean, safely assembled and ready before use. 1.2 Use equipment correctly, safely and hygienically.
2 Assemble ingredients for menu items.	2.1 Identify and obtain ingredients according to standard recipes, recipe cards or enterprise requirements. 2.2 Assemble ingredients according to the correct quantity, type and quality required.
3 Prepare food items	3.1 Prepare <i>food items</i> required for menus according to correct weight, amount and number of portions. 3.2 Clean, peel and prepare vegetables and fruit as required for menu items. 3.3 Prepare dairy products required for menu items, ensuring they are correctly handled. 3.4 Measure, sift where appropriate, and use dry goods as required for menu items. 3.5 Correctly handle all food items according to food safety procedures and the handling requirements for particular types of food. 3.6 Prepare food items in the required form and timeframe.

ELEMENT	PERFORMANCE CRITERIA
4 Portion food ingredients.	<p>4.1 Select and use suitable knives and equipment for food portioning.</p> <p>4.2 Portion <i>food ingredients</i> accurately, according to size, weight and required menu items.</p> <p>4.3 Store prepared and portioned foodstuffs according to food safety procedures and the storage requirements for particular types of food.</p>
5 Contribute to profitability.	<p>5.1 Use the designated quantity, weight and portions of ingredients to minimise wastage and maximise profitability of meals prepared.</p> <p>5.2 Prepare the correct amount of food items according to expected numbers of customers to minimise wastage and maximise profitability of meals prepared.</p>
6 Reduce food preparation costs and negative environmental impacts.	<p>6.1 Use energy and water resources efficiently when cleaning equipment and organising and preparing food to reduce costs and negative environmental impacts.</p> <p>6.2 Save <i>reusable by-products</i> of food preparation for future cooking activities.</p> <p>6.3 Use <i>recyclable products</i> during food preparation and dispose of them in designated recycling bins.</p> <p>6.4 Safely dispose of all <i>kitchen waste and hazardous substances</i> to minimise negative environmental impacts.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- logical and time-efficient work flow
- knife handling techniques
- cutting techniques for foods as required for menu items
- hygienic handling of food and equipment according to local, state or territory and national regulatory requirements
- safe work practices according to OHS principles and procedures, particularly with regard to using knives
- cleaning techniques for kitchen equipment
- problem-solving skills to deal with minor problems, such as shortages of ingredients
- literacy skills to read recipes, menus, instructions and orders
- numeracy skills to calculate portions, and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- the key characteristics and uses of the main categories of food items and those that are particularly used in the organisation
- menu and recipe requirements for the particular style, products and cuisine being served
- expected numbers of customers to be served
- full details of food safety procedures used in kitchen operations and the particular food safety regime for the organisation
- correct handling and storage requirements for different types of food
- applications of different types of cleaning products
- the essential features of and safe practices for using common hazardous substances used within kitchens and in particular substances used by the organisation e.g. cleaning products
- the environmental impacts of cleaning equipment and preparing food and minimal impact practices to reduce these especially those that relate to reusable resources, water and energy use
- correct and environmentally sound disposal methods for kitchen waste and hazardous substances.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to organise efficient, resource effective preparation of a variety of foods according to expected numbers of customers and to maximise profitability and minimise negative environmental impacts
- ability to use a range of cookery and preparation methods appropriate to the cuisine
- ability to undertake duties according to organisational hygiene, health and safety practices
- knowledge of food safety procedures and correct handling and storage requirements for different types of food
- knowledge of correct and environmentally sound disposal methods for kitchen waste and in particular for hazardous substances
- ability to organise and prepare a wide variety of general food items within the timeframe required by a commercial kitchen..

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within normal operating conditions of a fully equipped commercial kitchen including industry-current equipment
- industry-realistic ratios of kitchen staff to customers.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate preparing food
- inspection of food items prepared by the candidate
- written or oral questions to assess knowledge of preparation techniques, handling and storage requirements for various food types, hazardous substances and efficient resource use
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- any Asian Cookery unit
- any Commercial Cookery and Catering unit
- any Patisserie unit.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

RANGE STATEMENT

Knives and equipment may be mechanical or power driven and:

- must include the use of:
 - knives, cleavers and utensils such as butcher and boning knives, filleting knives, butter spreading knives, vegetable peeler or knives, slicers
 - knife sharpening equipment
 - graters
 - commercial mixers food processors, blenders and attachments
 - scales
 - measures
 - whisks
 - thermometers
- may include the use of:
 - saws and meat cleavers
 - meat bats
 - meat hooks
 - larding needles
 - mincers
 - bowl choppers
 - slicing machines
 - grills or salamanders

Knives and equipment may be mechanical or power driven and:

- fryers
- large fixed equipment, such as bains marie and fridges
- patisserie cutting implements
- cutting implements for nuts and fruits
- beaters
- spatulas
- wooden spoons
- piping bags and attachments
- moulds, shapes and cutters
- cake tins.

RANGE STATEMENT

Food items to be prepared:

- must include the use of:
 - dairy products, including milk, yoghurt, cheeses and alternatives, e.g. soy products
 - dry goods, such as flours, sugars, pastas and rice
 - standard fruit and vegetables
- general food items such as sauces, condiments and flavourings, garnishes, coatings and batters may include the use of:
 - meat, seafood and poultry that may be fresh, frozen, preserved or pre-prepared
 - meat products such as standard cuts, sausages, hams and salami.

Food ingredients to be portioned may include:

- meat
- seafood
- poultry
- pastry
- dough
- fruit
- vegetables.

RANGE STATEMENT

Reusable by-products may include:

- meat and fish offcuts
- bones and trimmings
- fruit peelings and offcuts
- vegetable peelings and offcuts
- unused portions of:
 - fruits
 - vegetables
 - seafood, meat and poultry
 - flowers
 - garnishes
 - accompaniments
 - batter
 - dough
 - pastry
 - fillings
 - sauces and dips
 - eggs
 - coconut cream and flesh.
 - combined spices
 - pastes.

RANGE STATEMENT

Recyclable products may include:

- glass bottles and jars
- plastics
- paper and cardboard
- tin or aluminium containers
- fruit and vegetable matter.

Kitchen waste and hazardous substances may include:

- Any used or out of date ingredient or food item such as:
 - cooking oils
 - animal fat
 - ghee
 - dairy products, including milk, yoghurt, cheeses and soy products
 - dry goods, such as flours, sugars, pastas and rice
 - fruit and vegetables
 - general food items such as sauces, condiments and flavourings, garnishes, coatings and batters
 - meat, seafood and poultry
 - meat products such as standard cuts, sausages, hams and salami.
- Any cleaning agent or chemicals.

Unit Sector(s)

Sector

Hospitality

Competency field

Competency field

Commercial Cookery and Catering

SITHCCC002A Present food

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to efficiently and professionally plate, present and serve food in a commercial kitchen or catering operation. It may include the presentation of food for Asian cuisines.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to all establishments where food is prepared and served. Those undertaking this role would work under supervision and usually as part of a team.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

This unit must be assessed after the following prerequisite unit:
SITXOHS002A Follow workplace hygiene procedures.

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare food for service.	<p>1.1 Identify <i>foods</i> for menu items.</p> <p>1.2 Arrange sauces and garnishes to enterprise requirements for specific dishes.</p>
2 Portion and plate food.	<p>2.1 Ensure that sufficient supplies of clean, undamaged crockery are available at temperatures appropriate to food being served.</p> <p>2.2 Portion food according to enterprise policies and standard recipes.</p> <p>2.3 Plate food and present neatly and attractively, without drips or spills, to the enterprise requirements for the specified dish, taking into consideration eye appeal, colour and contrast, temperature of food, <i>service</i></p>

ELEMENT

PERFORMANCE CRITERIA

equipment, and classical and innovative arrangement styles.

2.4 Serve food to be displayed in public areas in appropriate serviceware at the correct temperature, in an attractive manner, without drips or spills and giving attention to colour.

3 Work in a team.

3.1 Demonstrate good teamwork with all kitchen and food service staff to ensure timely, quality service of food.

3.2 Organise and follow a kitchen routine for food service to maximise food quality and minimise delays.

3.3 Maintain a high standard of personal and work-related hygiene practices.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- logical and time-efficient work flow
- safe work practices according to OHS principles and procedures
- hygienic handling of food and equipment according to regulatory requirements
- waste minimisation techniques and environmental considerations in relation to food presentation
- problem-solving skills to deal with minor problems such as shortages of ingredients, spillages and mistakes
- literacy skills to read menus and orders
- numeracy skills to calculate portions and plate menu items uniformly.

The following knowledge must be assessed as part of this unit:

- use and characteristics of basic food products and types of menus as required
- classical and innovative styles of food presentation for major food groups.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- application of hygiene and safety principles and procedures
- ability to plate, present and serve a general range of foods efficiently and within realistic workplace time constraints
- ability to work as part of a team in a positive and courteous manner.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a fully equipped operational commercial kitchen, including industry-current equipment, as defined in the Assessment Guidelines
- access to a range of equipment for presenting food, including:
 - appropriate crockery and utensils for service
 - food and beverage trays
 - buffet table or unit (if displaying as buffet)
 - buffet display items, such as platters
 - display boards
- use of authentic menu items.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate working as a member of a team and plating and presenting food
- written or oral questions to assess knowledge of presentation techniques for different food items
- review of portfolios of evidence, such as photographs, and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

SITHCCC001B Organise and prepare food.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

A variety of *foods* must be plated, presented and served, including:

- entrees
- main courses
- desserts
- soups
- sandwiches
- breakfast items
- canapés and appetisers.

Service equipment may include:

- food and beverage trays
- buffet or suitable table
- dishes and platters
- buffet and smorgasbord display items.

Unit Sector(s)

Sector

Hospitality

Competency field

Competency field

Commercial Cookery and Catering

SITHCCC005A Use basic methods of cookery

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to use a range of basic cookery methods to prepare menu items for the kitchen of a hospitality or catering operation. The unit underpins effective performance in all other cookery units.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to hospitality and catering enterprises where food is prepared and served such as restaurants, hotels, clubs, cafeterias and other catering operations. It applies to cooks who usually work as part of a team and under supervision.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

This unit must be assessed after the following prerequisite units:

SITHCCC001B Organise and prepare food

SITHCCC002A Present food

SITXOHS002A Follow workplace hygiene procedures.

Employability Skills Information

Employability skills

The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

- | | | | |
|---|--|-----|---|
| 1 | Select and use cooking equipment and technology. | 1.1 | Select appropriate <i>equipment and technology</i> for particular cooking methods. |
| | | 1.2 | Use equipment hygienically, safely and according to manufacturer instructions. |

ELEMENT	PERFORMANCE CRITERIA
2 Prepare and cook food using basic methods of cookery.	<ul style="list-style-type: none">2.1 Use various <i>cookery methods</i> to prepare dishes to enterprise standard.2.2 Calculate correct quantities and ratios of <i>commodities</i> for specific cookery methods.2.3 Complete cooking process in a logical and safe manner.2.4 Identify problems with the cooking process promptly and take corrective action.2.5 Prepare dishes using a range of methods and current technology within acceptable enterprise and customer timeframes.2.6 Work cooperatively with kitchen and front-of-house colleagues to ensure timely preparation of dishes.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- logical and time-efficient work flow
- use and characteristics of a range of equipment used for the required methods of cookery
- safe work practices, particularly in relation to bending and lifting, and using cutting implements, appliances, heated surfaces and other equipment that carries a risk of burns
- waste minimisation techniques and environmental considerations in relation to different cookery methods
- problem-solving skills to deal with problems such as shortages of food items, mistakes or problems in commodities or meals produced, and equipment failure
- literacy skills to read menus, orders and instructions
- numeracy skills to calculate quantities and portions against orders.

The following knowledge must be assessed as part of this unit:

- food classification for the major food groups
- characteristics of different foods and appropriate cookery methods
- underlying principles of all basic methods of cookery
- culinary terms commonly used in association with the required methods of cookery
- effects of different cookery methods on the nutritional value of food
- principles and practices of personal and professional hygiene related to working in a kitchen, including appropriate uniform and personal protective equipment.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to prepare dishes on more than one occasion within realistic workplace time constraints using a range of cookery methods
- knowledge of major food groups, culinary terminology and equipment as they relate to the required methods of cookery
- application of hygiene and safety principles and procedures during the cooking process.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a fully equipped operational commercial kitchen, including industry-current equipment, as defined in the Assessment Guidelines
- demonstration of cookery methods with commodities from the major food groups, including different menus and food items
- access to appropriate utensils, cutlery and equipment to undertake the full range of basic cookery methods, including poaching, stewing, braising, roasting, deep and shallow frying, boiling, atmospheric and pressure steaming, grilling and baking
- use of authentic ingredients.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate using the required cookery methods
- sampling of dishes prepared by the candidate
- written or oral questions to test knowledge on suitable cookery methods for particular food items, safety issues and food quality indicators
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate, such as menus and photographs.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

SITXFSA001A Implement food safety procedures.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Bold italicised wording** in the performance criteria is detailed below.

RANGE STATEMENT

Equipment and technology may include:

- electric, gas or induction ranges
- ovens, including combi ovens
- microwaves
- grills and griddles
- deep-fryers
- salamanders
- food processors
- blenders
- mixers
- slicers
- tilting frypan and bratt pan
- steamers
- utensils
- cutlery.

Cookery methods may include any used within an enterprise but must include the following:

- boiling
- poaching
- steaming
- stewing
- braising
- roasting
- baking
- grilling
- shallow frying
- deep-frying
- stir-frying
- pan-frying.

RANGE STATEMENT

Dishes to be prepared must use a range of commonly-found *commodities* including:

- dairy products, such as milk, butter, yoghurt, cheeses and alternatives
- dry goods, such as flours, sugars, pastas and rice
- standard fruit and vegetables
- eggs
- meat, seafood and poultry, which may be fresh, frozen, preserved or pre-prepared, and may also include meat products such as standard cuts, sausages, hams, salami and other meat products
- general food items, such as oils, sauces, condiments and flavourings, garnishes, coatings and batters.

Unit Sector(s)

Sector

Hospitality

Competency field

Competency field

Commercial Cookery and Catering

SITHCCC014A Prepare pastries, cakes and yeast goods

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to produce a range of pastries, cakes and yeast-based foods in a commercial kitchen or catering operation.

Pastries, cakes and yeast-based goods may include foods from varying cultural origins and may be derived from classical or contemporary recipes.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to all hospitality and catering enterprises where pastry, cakes and yeast goods are prepared and served such as restaurants, hotels, cafes and other catering operations. It applies to cooks who usually work as part of a team and under supervision.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	This unit must be assessed after the following prerequisite units: SITHCCC001B Organise and prepare food SITHCCC002A Present food SITHCCC005A Use basic methods of cookery SITXOHS002A Follow workplace hygiene procedures.
---------------------------	---

Employability Skills Information

Employability skills	The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the required performance needed to demonstrate achievement of the element. Where <i>bold italicised</i> text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare, decorate and present pastries.	1.1 Produce a variety of pastries and pastry products according to enterprise standards, including short, puff and choux-based pastries and products. 1.2 Prepare basic <i>pastes</i> according to standard recipes or

ELEMENT

PERFORMANCE CRITERIA

industry standards, using appropriate techniques, methods and *equipment*.

- | | | | |
|---|--|-----|--|
| 2 | Prepare and produce cakes and yeast goods. | 2.1 | Prepare a variety of <i>cakes</i> and <i>yeast-based products</i> according to standard recipes and enterprise practice. |
| | | 2.2 | Prepare a range of <i>yeast-based doughs</i> to standard recipes. |
| | | 2.3 | Select and use suitable equipment safely and efficiently. |
| 3 | Decorate pastries, pastry products, cakes and yeast goods. | 3.1 | Decorate pastries and pastry products, cakes and yeast goods to enhance appearance, using suitable fillings, icings, <i>sauces</i> and decorations, to standards recipes and enterprise standards. |
| 4 | Portion and store pastries, cakes and yeast goods. | 4.1 | Apply portion control to minimise wastage. |
| | | 4.2 | Store cakes and pastry products to minimise spoilage and wastage. |

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- logical and time-efficient work flow
- organisational skills and teamwork
- safe work practices, in particular in relation to use of machinery and hot ovens and surfaces
- waste minimisation techniques and environmental considerations in relation to pastry, cakes and yeast goods
- problem-solving skills to deal with problems such as failure of cakes to rise, batter too moist and overcooking
- literacy skills to read menus, recipes and task sheets
- numeracy skills to calculate portions, and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- varieties and characteristics of pastries, cakes and yeast-based products, both classical and contemporary
- past and current trends in pastries, cakes and yeast-based goods
- underlying principles of making pastry and yeast-based products, including basic food science in relation to yeast
- nutrition related to pastries, cakes and yeast-based goods
- culinary terms related to pastries, cakes and yeast-based goods commonly used in the industry
- principles and practices of hygiene, particularly in relation to handling pastes and dough
- storage of cakes and pastries to maintain freshness and quality
- costing, yield testing and portion control for pastries, cakes and yeast-based goods.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- preparation of a variety of different types of pastries, cakes and yeast-based goods, with at least one from each category of pastes
- preparation of dishes for customers within typical workplace time constraints
- detailed understanding of the different nature and handling requirements of each type of pastry.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a fully equipped operational commercial kitchen or pastry kitchen, including industry-current equipment, as defined in the Assessment Guidelines
- access to specific equipment for the preparation of pastries, cakes and yeast goods, including templates and cutting guides, dough mixers and rolling pins, cake tins, moulds and forms, piping bags, nozzles and decorating accessories
- use of authentic ingredients
- industry-realistic ratios of kitchen staff to customers.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate handling and preparing pastries, cakes and yeast-based goods
- sampling of pastries, cakes and yeast-based goods made by candidate
- written or oral questions to test knowledge of underlying principles of making pastry and yeast-based products
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

SITHCCC013A Prepare hot and cold desserts.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

RANGE STATEMENT

Pastes must include:

- short and sweet paste, e.g. flans, tarts and pies
- choux paste, e.g. profiteroles and éclairs
- puff paste, e.g. mille feuille
- filo or strudel.

Equipment for making pastry, cakes and yeast-based goods may include:

- mixers
- blenders
- bowl cutters
- dough sheets
- ovens and proovers
- scales and measures
- mixing and baking utensils.

Cakes, both large and small, may include:

- sponge cakes
- genoise sponge
- fruit cake
- madeira
- Swiss roll
- meringues
- petits fours
- ganache
- pastry garnishes, tuilles, sugar and piping
- cold set cakes and mousse cakes
- friands
- muffins.

Yeast-based products may include:

- Danish pastries
- sweet buns and hot cross buns
- croissants
- coffee scrolls
- brioches
- savarins and rum babas.

RANGE STATEMENT

Yeast-based doughs to be produced must include:

- basic bread dough
- savarin dough
- croissant or Danish dough
- yeast bun dough.

Sauces may include:

- coulis
- Anglaise
- sugar syrup
- sabayon.

Unit Sector(s)

Sector

Hospitality

Competency field

Competency field

Commercial Cookery and Catering

SITHCCC022A Prepare chocolate and chocolate confectionery

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to handle chocolate, prepare individual chocolates and make chocolate-based confectionery.

Chocolate includes couverture (pure coating chocolate) in dark, milk and white, and various compounds.

Tempering is the technique to control formation of seed crystals and to achieve the desired characteristics in solidified chocolate, including setting properties, snap and sheen.

Chocolate confectionery may be moulded, cut or dressed, with hard or soft centres, hand coated, machine enrobed or made using prepared hollow shells.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to those working in hospitality and catering enterprises where chocolate and chocolate confectionery are prepared and served, such as restaurants, hotels and other catering operations. It usually applies to cooks and patissiers in senior positions who work with significant autonomy and who may be responsible for the work of others.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite unit:
SITXOHS002A Follow workplace hygiene procedures.

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Temper couverture.	<p>1.1 Melt and temper couverture using correct <i>technique</i> and temperatures.</p> <p>1.2 Manipulate couverture to the correct viscosity and desired flow properties so that it possesses appropriate colour,</p>

ELEMENT	PERFORMANCE CRITERIA
	gloss and snap characteristics on solidification.
	1.3 Control the temperature to retain workable consistency.
2 Prepare centres and fillings.	2.1 Choose and manipulate ingredients correctly demonstrating high standards of hygiene.
	2.2 Prepare a range of <i>centres and fillings</i> according to standard recipes or enterprise specifications.
	2.3 Select and make <i>fillings</i> that are full-flavoured, interesting and natural.
	2.4 Bring fillings to the correct temperature, viscosity and consistency before being used.
	2.5 Ensure that shapes and sizes of centres are precise and uniform.
3 Handle moulds.	3.1 Ensure that moulds to be used are clean, polished and free of dust or residue.
	3.2 Keep moulds constantly at the correct temperature when being used and ensure that they are untouched by bare fingers.
	3.3 Ensure that the polished surface is never touched by objects that may dull, scratch or damage it.
4 Make moulded chocolates.	4.1 Select couverture or coatings appropriate to the filling and use.
	4.2 Temper couverture correctly and set in moulds ensuring it is of even and correct thickness and free from marks or air bubbles.
	4.3 Apply a range of fillings ensuring a level surface and allowing sufficient space for sealing with a layer of chocolate of appropriate thickness.
	4.4 Handle and store de-moulded chocolates so that they retain their glossy surface.
5 Coat chocolate confectionery.	5.1 Temper and manipulate couverture to the correct viscosity.
	5.2 Bring items to be coated to the correct temperature.

ELEMENT	PERFORMANCE CRITERIA
	5.3 Coat prepared centres using techniques ensuring an even and correct thickness of chocolate and a uniform quality finish.
	5.4 Execute hand dipping in a logical and accurate manner.
	5.5 Decorate and present chocolate confectionery attractively.
6 Store chocolate and chocolate confectionery.	6.1 Store chocolate and chocolate confectionery at the correct temperature and level of humidity.
	6.2 Protect chocolate and chocolate confectionery from light and incompatible odours.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- artistic skills and creative techniques for chocolate and chocolate confectionery
- logical and time-efficient work flow
- safe work practices, in particular in relation to bending, lifting and handling heated surfaces
- problem-solving skills to deal with breakdowns in systems or equipment
- literacy skills to research chocolate types, history and trends
- numeracy skills to cost yields and portion control.

The following knowledge must be assessed as part of this unit:

- specific requirements for the handling of chocolate
- culinary terms commonly used in the industry in relation to chocolate making
- principles and practices of hygiene related to handling chocolate
- past and current trends in chocolate and chocolate products.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- detailed understanding of the different classifications of chocolate
- ability to produce a quantity of chocolates which are consistent, neat, and even in size, shape and appearance
- flair, innovation, creativity and artistic skills in creating, decorating and presenting chocolates.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a suitably equipped commercial kitchen or pastry kitchen, including industry-current equipment, as defined in the Assessment Guidelines
- access to industry-current equipment for the preparation of chocolate, including couverture, chocolate moulds, sponges, scourers, brushes and specialty scrapers, marble slab and warming area or double bain marie
- use of a variety of suitable authentic ingredients
- preparation of chocolates within typical workplace time constraints.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate making a variety of chocolates and chocolate items
- sampling of chocolates produced by the candidate
- written or oral questions to test knowledge on technical aspects of chocolate making
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate, such as photographs of chocolates.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

SITHPAT007A Prepare and display petits fours

SITHPAT008A Prepare and model marzipan.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

RANGE STATEMENT

Tempering *techniques* must include:

- vaccination or addition method
- tabling method
- heated water jackets
- microwave.

Centres and fillings may include:

- nougat
- ganache
- marzipan
- flavoured fondant
- croquant
- caramel
- jellies
- liqueurs
- nuts and fruits.

Unit Sector(s)

Sector

Hospitality

Competency field

Competency field

Commercial Cookery and Catering

SITHFAB003A Serve food and beverage to customers

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to serve food and beverage to customers in a range of hospitality industry enterprises.

The unit does not focus on the full range of product knowledge and service techniques required in a restaurant dining situation, which is addressed in SITHFAB004A Provide food and beverage service.

Some States and Territories have legislative requirements in relation to service of alcohol.

Application of the Unit

Application of the unit

This unit reflects the role of a food and beverage attendant in hospitality settings such as restaurants, clubs, pubs, cafes, coffee shops, cafeterias and catering operations. Persons undertaking this role usually work as part of a team under supervision.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite unit:
SITXOHS002A Follow workplace hygiene procedures.

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for service.	<p>1.1 Check <i>furniture</i> and fittings for cleanliness and condition prior to <i>service</i> according to enterprise procedures, and take corrective action where required.</p> <p>1.2 Prepare and adjust the <i>environment</i> to ensure comfort and ambience for customers, as appropriate.</p> <p>1.3 Set up any furniture according to enterprise requirements, customer requests and customer and staff convenience and safety.</p>

ELEMENT	PERFORMANCE CRITERIA
	1.4 Check any furniture for stability and customer and service personnel access according to legislative requirements.
	1.5 Check and prepare <i>equipment</i> for service and remove, clean or replace items not meeting enterprise standards.
	1.6 Display food and beverage items according to enterprise and <i>legislative requirements</i> .
2 Welcome customers.	2.1 Greet customers on arrival, according to enterprise customer service standards.
	2.2 Provide <i>information</i> to customers, giving clear explanations and descriptions.
	2.3 Make recommendations and suggestions to customers to assist them with drink and meal selection.
	2.4 Answer customer questions on menu items correctly and courteously.
3 Take and process orders.	3.1 Take and record orders accurately and legibly using the format required by the enterprise, and convey them promptly to the kitchen or bar, where appropriate.
	3.2 Operate the ordering system according to enterprise procedures.
	3.3 Relay information about any special requests or dietary or cultural requirements to relevant person where appropriate.
	3.4 Provide glassware, serveware and cutlery suitable for menu choice, according to enterprise procedures.
	3.5 <i>Process accounts</i> and receive payment at appropriate time and according to enterprise procedures.
4 Serve and clear food and drinks.	4.1 Collect food and beverage selections promptly from kitchen or bar, check for accuracy and presentation, and convey them to customers safely.
	4.2 Serve food and beverage courteously and to the correct person, according to enterprise standards and hygiene requirements.
	4.3 Promptly recognise and follow up any delays or deficiencies in service.

ELEMENT	PERFORMANCE CRITERIA
	4.4 Advise and reassure customers about any delays or problems.
	4.5 Check customer satisfaction at the appropriate time.
	4.6 Remove used items in a timely manner and safely transfer them to the appropriate location for cleaning.
	4.7 Dispose of leftover food and disposables, according to hygiene regulations and enterprise practice.
	4.8 Dispose of recyclable items according to local regulations and enterprise practice.
	4.9 Thank and farewell customers courteously.
5 Close down after service.	5.1 Clear, clean, dismantle and store furniture and equipment according to enterprise procedures and safety requirements.
	5.2 Prepare and <i>set up for next service</i> according to enterprise procedures and requirements.
	5.3 Review and evaluate services with colleagues where appropriate and identify possible improvements.
	5.4 Provide handover to incoming colleagues and share relevant information.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- food and beverage service techniques appropriate to the enterprise, including plate carrying
- safe and hygienic work practices in relation to food and beverage service
- problem-solving skills to deal with menu changes, lack of availability of items and difficult customer situations
- communication skills to liaise with customers and other team members, clarify requirements, provide information and listen to and interpret information and non-verbal communication
- technical skills to use enterprise ordering systems and equipment
- literacy skills to read menus and orders
- numeracy skills to calculate customer accounts.

The following knowledge must be assessed as part of this unit:

- typical work flow structure for food and beverage service appropriate to the enterprise
- ordering and service procedures
- range and use of standard food and beverage equipment
- menus and drink lists appropriate to the enterprise
- waste minimisation techniques and environmental considerations in relation to food and beverage service.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency Evidence of the following is essential:

- demonstrated ability to serve food and beverage according to established systems and procedures
- ability to meet, greet and interact positively with

EVIDENCE GUIDE

customers

- ability to work with speed and efficiency, and within typical workplace time constraints
- knowledge of hygiene and OHS requirements and demonstrated safe practices.

Context of and specific resources for assessment

Assessment must ensure:

- access to authentic food and drink items
- demonstration of skills within normal operating conditions of a commercial food and beverage operation, including industry-current equipment as follows:
 - tables and chairs
 - condiments
 - counter or waiter's station
 - tea and coffee-making facilities
 - selected linen
 - assorted cutlery
 - menus and drink lists
 - crockery, including cups, plates and jugs
 - serviettes
 - glassware
 - docket books or computerised ordering system
 - sugar bowls or dispensers
 - POS system
- industry-realistic ratios of staff to customers
- time pressures typical of a commercial operation.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate preparing for service, providing service to customers and closing down after service
- direct observation of the candidate undertaking specific tasks, such as taking and processing orders, serving food and drink items or clearing tables
- written or oral questions to test knowledge of sequence of service, typical problems, menu items and drink selections
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHFAB010C Prepare and serve non-alcoholic beverages
- SITHFAB011A Develop and update food and beverage knowledge
- SITXFIN001A Process financial transactions.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work

RANGE STATEMENT

environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Styles of *service* may include:

- counter
- bistro
- table
- à la carte.

Environment may include:

- lighting
- room temperature
- music
- decorations and displays
- privacy
- background noise.

Equipment may include:

- glassware
- crockery
- overlays and napkins
- placemats
- floral arrangements
- cutlery
- condiments
- tea and coffee-making facilities
- menus and wine lists
- display materials
- computerised ordering systems
- point-of-sale (POS) equipment.

Legislative requirements may be related to:

- liquor, including responsible service of alcohol
- OHS
- hygiene
- consumer protection and trade practices
- duty of care.

RANGE STATEMENT

Information provided to customers may include:

- menu choices, options and availability
- information about food and beverages
- specials
- information about the location or area
- location of customer facilities.

Processing accounts will vary according to enterprise procedures and may include:

- depositing money in cash register, processing and giving change
- processing credit cards or electronic funds transfer at point of sale (EFTPOS)
- handing account to another person to process.

Set up for next service may include:

- polishing glassware
- placing equipment in allocated storage areas
- resetting tables
- cleaning equipment, such as coffee machines and bains marie
- general cleaning of surfaces
- restocking.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB004A Provide food and beverage service

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to provide quality food and beverage service to customers in a range of hospitality industry enterprises.

The unit does not focus on basic product knowledge about food and beverage, which is found in SITHFAB011A Develop and update food and beverage knowledge and SITHFAB005A Provide table service of alcoholic beverages, which covers detailed knowledge of wine.

Some States and Territories have legislative requirements in relation to service of alcohol.

Application of the Unit

Application of the unit

This unit applies to establishments where table service of food and beverage is provided, such as restaurants, dining rooms, function and catering outlets, and some cafes. It reflects the role of a waiter or food and beverage attendant and may apply to different styles of service.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite units:
SITHFAB003A Serve food and beverage to customers
SITXOHS002A Follow workplace hygiene procedures.

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Organise tasks and plan work flow.	1.1 Access <i>relevant information</i> and plan and organise work; prioritising, sequencing and monitoring tasks and processes.
	1.2 Clarify job roles with other team members and delegate tasks to others as appropriate.
	1.3 Develop and follow a work schedule or plan to maximise efficiency, taking into consideration roles

ELEMENT	PERFORMANCE CRITERIA
	and responsibilities of other team members.
	1.4 Plan and monitor work flow during service, including own tasks and those of other team members and make adjustments where appropriate.
2 Manage the service cycle.	2.1 Complete <i>set up and mise en place</i> of restaurant, dining area, function or catering outlet and check and adjust <i>dining environment</i> to ensure comfort and ambience for customers according to <i>service</i> requirements and enterprise procedures.
	2.2 Welcome customers and offer available <i>pre-meal services</i> according to enterprise procedures.
	2.3 Escort and seat customers according to table allocation, assisting with seating and providing napkin service according to enterprise procedures.
	2.4 Present menus and drinks lists to customers and provide <i>information</i> , giving clear explanations and descriptions and answering questions correctly and courteously.
	2.5 Make recommendations and suggestions to customers to assist them with drink and meal selection, and promote or up-sell products as appropriate.
	2.6 Take orders and relay to kitchen and bar, providing additional information about any special requests or dietary or cultural requirements where appropriate.
	2.7 Provide and adjust glassware, serveware and cutlery suitable for menu choices and according to enterprise procedures.
	2.8 Monitor flow of service and meal delivery, serving and clearing food, drinks and plates at the appropriate time during service with minimal disruption to customers.
	2.9 Identify any delays or deficiencies in service or products and address promptly to customer satisfaction and according to enterprise policy and procedures.
	2.10 Organise and present accounts to customers on request, and <i>process</i> them according to enterprise procedures.
	2.11 Farewell customers courteously in a manner that will encourage them to return.
	2.12 Perform <i>close-down procedures</i> after service according

ELEMENT	PERFORMANCE CRITERIA
	to enterprise procedures.
	2.13 Undertake tasks according to <i>environmental considerations</i> .
3 Manage relationships with colleagues and customers.	3.1 Liaise with kitchen, bar and other waiting staff before, during and after service to maximise communication and flow of information.
	3.2 Identify clearly any problems and address them promptly and courteously using appropriate communication techniques.
	3.3 Provide a hospitality experience, according to established protocols and service techniques, enterprise policies and customer expectations.
	3.4 Provide handover to incoming restaurant colleagues and share relevant information.
	3.5 Review and evaluate services with colleagues where appropriate, identifying possible improvements and innovations and informing relevant others as appropriate.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- table dressing and setting techniques for different settings, styles and occasions, including restaurants, functions and catering
- napkin folding for different settings, styles and occasions, including restaurants, functions and catering
- plate clearing and carrying techniques
- use of enterprise computerised ordering systems
- safe work practices and hygiene issues of specific relevance to food and beverage service
- problem-solving skills to deal with under or over-booking situation
- communication skills to liaise with customers and other team members, clarify requirements, provide information and listen to and interpret information and non-verbal communication
- literacy skills to read menu items and specials and explain them to customers
- numeracy skills to calculate and estimate accuracy of customer accounts.

The following knowledge must be assessed as part of this unit:

- ordering and service procedures
- ways of dressing and setting tables for a range of different functions, service styles and service periods, including restaurants, functions and catering
- typical work flow structure for service within a food and beverage service environment
- range and use of standard restaurant equipment
- typical food and beverage service styles and types of menus used in different hospitality contexts, including buffet, tray, plate and silver service
- typical table and room set-ups for different types of restaurants, functions and catering venues, including furniture, seating and decoration
- menus appropriate to the enterprise
- legislative and regulatory requirements, including OHS, food safety and responsible service of alcohol
- the environmental impacts of food and beverage service and minimal impact practices to reduce these especially those that relate to reusable resources, water and energy use
- correct and environmentally sound disposal methods for food and beverage waste including recyclable glass and plastic bottles and containers.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to provide integrated food and beverage service within a restaurant or dining area according to established systems and procedures
- ability to deal with typical issues such as workplace time constraints, late bookings, no-shows, walk-ins and menu changes
- ability to meet, greet and interact positively with customers throughout their dining experience
- ability to maintain the cleanliness and tidiness of service areas, including dealing with disposables and recyclables
- ability to monitor and adjust the service process and work flow to meet customer requirements, appropriate timing and enterprise policies and procedures
- compliance with regulatory and legislative requirements
- demonstrated health and safety practices.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a fully equipped operational restaurant or dining area, including industry-current equipment as defined in the Assessment Guidelines, and actual food items and meals
- presence of industry-realistic conditions, such as commercial ratios of customers to staff.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate preparing the restaurant for service, providing service to customers and closing down the restaurant or dining room
- direct observation of the candidate undertaking specific tasks, such as dressing or setting tables
- written or oral questions to test knowledge of sequence of service, typical problems, menu items and beverage selection
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHFAB005A Provide table service of alcoholic beverages
- SITHFAB010C Prepare and serve non-alcoholic beverages
- SITHFAB011A Develop and update food and beverage knowledge
- SITHFAB018A Provide silver service
- SITXCOM006A Address protocol requirements
- SITXFIN001A Process financial transactions.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Relevant information may include:

- bookings and reservations
- table and seating requirements
- customer requests and special requirements
- menus, wine lists and specials
- staffing availability
- job role
- station and table allocation.

RANGE STATEMENT

Set up and mise en place includes:

- checking dining environment and customer facilities for cleanliness, and preparing and adjusting as appropriate
- setting up furniture according to legislative and enterprise requirements, bookings, customer requests, and customer and staff convenience and safety
- checking tables and table settings for stability and customer and service personnel access
- checking and preparing equipment and materials for service, including:
 - glassware
 - crockery
 - cutlery
 - linen
 - condiments
 - tea and coffee-making facilities
 - tables and chairs
 - menus and wine lists
 - display materials
 - manual and electronic cash registers
 - computerised ordering systems
 - point-of-sale equipment and stationery
- table dressing, including:
 - linen presentation, such as tablecloths, overlays and napkins
 - paper overlays and napkins
 - placemats
 - glassware
 - serviceware
 - flatware
 - floral arrangements.

RANGE STATEMENT

Dining environment may include:

- lighting
- room temperature
- music
- floral and other decorations
- privacy
- background noise.

Styles of ***service*** may include:

- set menu (table d'hôte)
- à la carte
- buffet
- function
- breakfast.

Pre-meal services available to customers may include:

- bar service
- lounge and waiting areas
- valet services, including cloakroom facilities.

Information provided to customers may include:

- menu choices and options
- information about food and beverages
- specials
- information about the location or area
- location of customer facilities.

Process accounts will vary according to enterprise procedures and includes the following:

- depositing money in cash register, processing and giving change
- processing credit cards or electronic funds transfer at point of sale (EFTPOS)
- handing account to other person to process.

RANGE STATEMENT

Close-down procedures may include:

- removing used items from service areas and transferring them to the appropriate location for cleaning
- disposing of leftover food, disposables and recyclables
- storing and preparing equipment for the next service
- clearing, cleaning or dismantling work area, furniture and equipment such as coffee machines
- setting up for next service, including:
 - polishing flatware and glassware
 - storing serviceware, flatware and glassware in allocated storage areas
 - resetting and dressing tables
 - general cleaning of restaurant and customer facilities.

Environmental considerations may include:

- correct disposal of leftover food, disposables and recyclables such as paper products, toothpicks, bottles, plastics and linen
- minimising waste
- minimising usage of power and water.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB005A Provide table service of alcoholic beverages

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to advise on and serve a range of bottled and pre-poured alcoholic beverages within a hospitality setting. It covers general knowledge of and service of all alcoholic beverages, including wines. The unit is related to SITHFAB011A Develop and update food and beverage knowledge, which also covers general information on beverages. Specialist knowledge and service of wines is found in SITHFAB325A Provide specialised advice on Australian wines and SITHFAB326A Provide specialised advice on imported wines.

The essential knowledge base for this unit will vary according to local industry needs, and it is vital that any training take account of these.

Some States and Territories will have legislative requirements in relation to service of alcohol.

Application of the Unit

Application of the unit

This unit applies to beverage attendants in all establishments where alcoholic beverages are served at the table, such as restaurants, catering venues and hotels. Persons undertaking this function usually work as part of a team and have considerable autonomy with responsibility for their own work outputs.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite units:
SITHFAB009A Provide responsible service of alcohol
SITXOHS002A Follow workplace hygiene procedures.

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
---------	----------------------

ELEMENT	PERFORMANCE CRITERIA
1 Advise customers on alcoholic beverages and take orders.	<p>1.1 Provide general information on alcoholic beverages served by the enterprise.</p> <p>1.2 Offer drinks and wine list to customers, using correct terminology and pronunciation to describe beverages.</p> <p>1.3 Offer advice and recommendations on beverage choices to customers courteously and when appropriate.</p> <p>1.4 Promote products and drinks to customers according to preferences and enterprise requirements.</p> <p>1.5 Assist customers in selection of food and wine combinations, when appropriate.</p> <p>1.6 Take customer orders and verify selection with the customer.</p>
2 Serve alcoholic beverages.	<p>2.1 Store alcoholic beverages appropriately according to enterprise practices.</p> <p>2.2 Select beverages and check both temperature and presentation of bottle prior to serving.</p> <p>2.3 Select appropriate glassware and other equipment for beverage service, according to enterprise requirements.</p> <p>2.4 Prepare glassware and place according to enterprise and industry standards.</p> <p>2.5 Load, carry and unload trays where required, safely and avoiding spillage.</p> <p>2.6 Present beverages selected by customers to verify, where appropriate.</p> <p>2.7 Open and serve beverages correctly, safely and without spillage.</p> <p>2.8 Pour beverages as required according to enterprise and industry protocol.</p> <p>2.9 Verify customer complaints about quality of beverages and respond according to enterprise procedures.</p> <p>2.10 Refill glasses where appropriate during service, with minimal disruption to customers.</p> <p>2.11 Remove used and unused glassware from tables at the appropriate time and in the correct manner.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- preparation of glassware, including:
 - checking for chips and cracks
 - polishing
 - arranging placement on table
 - placing in storage
- beverage serving techniques for appropriate range, including:
 - bottled beer
 - bottled wine
 - spirits
 - liqueurs
- safety work practices and hygiene issues of specific relevance to table service of beverages
- problem-solving skills to correct a situation where a bottle of wine has not had cork removed correctly
- communication skills to liaise with customers and other team members, clarify requirements, provide information and listen to and interpret information and non-verbal communication
- literacy skills to read wine and other beverage labels
- numeracy skills to calculate customer accounts.

The following knowledge must be assessed as part of this unit:

- general knowledge of wines in relation to:
 - major Australian and international wine types
 - compatibility of major Australian and international wine styles with different types of food
 - general features of wine from the major Australian wine producing areas
- major international wines commonly sold in Australia, such as chianti and champagne
- main grape varieties and wine types, including:
 - red, including cabernet sauvignon, shiraz, pinot noir and merlot
 - white, including semillon, sauvignon blanc, gewürztraminer, riesling and chardonnay
 - blended wines, including cabernet sauvignon, merlot, semillon and sauvignon blanc
 - sparkling wines

REQUIRED SKILLS AND KNOWLEDGE

- popular fortified wines, including sherry, port, muscat, vermouth, tokay and marsala
- dessert wines
- content of beverage labels, including wine, beer and spirits
- general knowledge of beers and spirits in relation to:
 - flavour and characteristics
 - differences between Australian and imported products
 - glassware required for different types of beverage
- flow of service within a food and beverage service environment according to enterprise practices
- requirements of the relevant state or territory Liquor Act in relation to service of alcohol (Please note that this should be covered by completion of SITHFAB009A Provide responsible service of alcohol).

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to serve a range of alcoholic drinks at the table within enterprise acceptable timeframes
- opening and serving beverages that require the application of different techniques, such as sparkling and still wines
- provision of professional and courteous advice on beverage selection
- provision of beverage service during a complete service period.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a fully equipped operational restaurant or dining area, as defined in the Assessment Guidelines, with access to a bar or service outlet
- industry-realistic conditions, such as typical customer to beverage attendant ratios.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate providing table service of a variety of alcoholic beverages
- written or oral questions to test knowledge of wine styles, wine service techniques and food and beverage combinations
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHFAB004A Provide food and beverage service
- SITHFAB010C Prepare and serve non-alcoholic beverages
- SITHFAB011A Develop and update food and beverage knowledge
- SITXFIN001A Process financial transactions.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

General information on alcoholic beverages to be provided to customers includes:

- suitable drinks before and after a meal
- suggested basic wine and food combinations
- typical wines and growing areas
- grape varieties and characteristics
- typical beers, place of origin and characteristics
- characteristics of spirits, liqueurs and aperitifs, and appropriate mixers
- range of cocktails.

Alcoholic beverages include:

- wines - still, sparkling and fortified
- beers - local, imported, bulk and packaged
- spirits
- liqueurs
- aperitifs
- cocktails.

Enterprise practices for storage relate to:

- refrigeration
- shelving and cellaring
- vertical or horizontal storage.

Equipment for beverage service at the table includes:

- ice buckets or stands
- openers and wine knives
- napkins
- glassware appropriate to beverage and style
- wine lists.

RANGE STATEMENT

- Prepare glassware* includes:
- checking for cracks and chips
 - polishing
 - table placement
 - placing in storage.

- Verifying customer complaints*
about quality of beverages
involves assessing:
- visual appeal
 - smell
 - taste.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB009A Provide responsible service of alcohol

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to responsibly sell or serve alcohol and to satisfy the requirements for responsible sale and service of alcohol (RSA) under state or territory legislation.

A harm minimisation approach is central to compliance with liquor licensing legislation which, across all Australian States and Territories, imposes obligations on all licensed venues to participate in the management of public safety through the responsible sale and service of alcohol.

Those developing training to support this unit must consult the relevant state or territory liquor licensing authority to determine any accreditation arrangements for courses, trainers and assessors.

This unit covers the RSA skill and knowledge requirements common to all States and Territories. Some legislative requirements and knowledge will differ across borders. In some cases after completion of this unit, state and territory liquor authorities may require candidates to complete a bridging course to address these specific differences.

All persons undertaking training as part of a national qualification that includes the sale and service of alcohol must complete this unit. Under differing state and territory legislation it is a required unit only for certain nominated personnel operating in licensed premises.

Application of the Unit

Application of the unit Responsible practices must be undertaken wherever alcohol is served and sold, including where alcohol samples are served during on-site product tastings. This unit, therefore, applies to any workplace situation where alcohol is served and sold, including all types of hospitality venues, retail liquor outlets and tourism venues such as wineries, breweries and distilleries. Training and assessment must be contextualised so that the requirements of specific industry sectors and workplaces are met.

This unit applies to all levels of sales personnel involved in the sale or service and promotional service of alcohol in licensed premises, including the licensee when involved in sales. Those selling and serving alcohol may include food and beverage attendants; retail liquor sales persons; winery, brewery and distillery cellar door staff; supplier sales representatives and the licensee.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

- | | | |
|---|--|---|
| 1 | Sell or serve alcohol responsibly. | <p>1.1 Sell or serve alcohol according to provisions of relevant state or territory legislation, licensing requirements and responsible service of alcohol principles.</p> <p>1.2 Provide <i>accurate information</i> to customers on alcoholic beverages according to enterprise or house policy and government legislation, including types, strengths, standard drinks and the alcoholic percentages of a range of frequently sold alcoholic beverages.</p> <p>1.3 Assist customers with information on the range of non-alcoholic beverages available for purchase.</p> <p>1.4 Identify <i>issues related to the sale and service of alcohol to different types of customers, especially those at risk</i>, and incorporate them into sales or service.</p> |
| 2 | Assist customers to drink within appropriate limits. | <p>2.1 Prepare and serve <i>standard drinks or samples</i> according to industry requirements.</p> <p>2.2 Encourage customers courteously and diplomatically to drink within appropriate limits.</p> <p>2.3 Recognise <i>erratic drinking patterns</i> as an early sign of possible intoxication and take appropriate action.</p> <p>2.4 Monitor emotional and physical state of patrons for signs of intoxication and ill effects of illicit or other drug usage.</p> <p>2.5 Where appropriate, offer food and non-alcoholic beverages.</p> <p>2.6 Politely decline requests for alcohol to be dispensed in a manner that is <i>irresponsible, or which encourages the</i></p> |

ELEMENT	PERFORMANCE CRITERIA
	<i>rapid or excessive consumption of alcohol</i> , and advise customers of the reasons for the refusal.
3 Assess alcohol-affected customers and identify customers to whom sale or service must be refused.	<p>3.1 Assess intoxication levels of customers using a number of methods, including observing <i>changes in behaviour</i>, observing emotional and physical state of customers, monitoring noise levels and monitoring drink purchases.</p> <p>3.2 When assessing intoxication, take into account <i>factors that may affect individual responses to alcohol</i>.</p> <p>3.3 Identify customers to whom sale or service must be refused according to state and territory legislation, including minors, those purchasing on behalf of minors, intoxicated persons, and persons affected by the consumption of illicit and other drugs.</p> <p>3.4 Where appropriate, request and obtain acceptable <i>proof of age</i> prior to sale or service.</p>
4 Refuse to provide alcohol.	<p>4.1 Refuse service in a polite manner and state reasons for the refusal.</p> <p>4.2 Speak to <i>intoxicated</i> customers in a suitable and consistent manner, minimising confrontation and arguments and pointing out <i>signage</i> where relevant.</p> <p>4.3 Provide <i>appropriate assistance</i> to customers when refusing service.</p> <p>4.4 Where appropriate, give patrons a verbal warning and ask them to leave the premises according to enterprise or house requirements, the specific situation and provisions of state or territory legislation and regulations.</p> <p>4.5 Use <i>appropriate communication and conflict resolution skills</i> in handling difficult situations.</p> <p>4.6 Refer difficult situations beyond the scope of individual responsibility to the appropriate person.</p> <p>4.7 Promptly identify situations that pose a threat to the safety or security of colleagues, customers or property, and seek assistance from appropriate colleagues according to enterprise policy.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

appropriate communication and conflict resolution skills for dealing with intoxicated patrons

- literacy skills to read and comprehend documents such as ID cards, proof of age cards, driver's licences, statutory signage, warning signs and wording within advertising or promotional material, in-house policies and procedures and any general plain English regulatory and advisory information issued by local, or state and territory liquor licensing authorities
- numeracy skills to measure and calculate standard drinks or samples and calculate blood alcohol levels as they relate to alcohol consumption.

The following knowledge must be assessed as part of this unit:

- public interest reasons for implementation of responsible service of alcohol practices, including:
 - government and community concern with alcohol misuse and abuse
 - crime, violence and anti-social behaviour associated with alcohol abuse
- impact of excessive drinking on:
 - local neighbourhood and community
 - premises and staff
 - customers
 - particular types of customers who may be at heightened risk such as young people, pregnant women and minors
 - government agencies such as the local police, health facilities and road authority
- key agencies and how to source relevant information on laws, regulations and codes of practice or conduct
- current promotional and strategic community education campaigns developed and conducted by agencies and industry groups
- effects of alcohol on:
 - emotional state
 - health
 - physical alertness
- factors that affect individual responses to alcohol, including:
 - gender
 - weight
 - general health

REQUIRED SKILLS AND KNOWLEDGE

- rate of consumption
- food intake
- other substances taken
- time for effects of alcohol to be registered
- standard drinks and acceptable measures of alcohol
- indicators of intoxication, including ways of assessing intoxication of customers
- ways of assessing customers affected by the consumption of illicit and other drugs
- principles of harm minimisation
- strategies laid down in legislation and codes of conduct developed by government agencies or industry groups and in-house policies that are designed to reduce the harm associated with liquor abuse
- understanding that these requirements are strategies to minimise the harm associated with liquor abuse

- knowledge and understanding of liquor laws and regulations at a depth relevant to the scope of job responsibility within licensed premises, including the following list that expresses general statements about requirements of liquor legislation and information that must be customised for each State or Territory:
 - legislative definition of intoxication
 - role of individual staff members and supervisors or managers in providing responsible service of alcohol, including seller or server duty of care and liability
 - requirement to adopt and use statutory signage on the premises for the entire range of circumstances applicable to the enterprise
 - requirements for mandatory content of any warning signs and wording within advertising or promotional material of any form, such as print advertising or internet sales
 - requirements for the remote sale and delivery of alcohol sales generated via the telephone, fax, email or mail
 - requirements for proof of age and obligations to minors under local legislation
 - provisions for retaining and reporting falsified proof of age documents
 - provisions for requiring someone to leave the premises
 - transportation options
 - barring procedures, where applicable
 - opening and closing hour provisions
 - requirements for monitoring noise and disturbances in and around licensed premises
 - requirements laid down in codes of practice or conduct developed by government agencies or industry groups
 - requirements described by an in-house policy, standard or code of practice or conduct
 - training and record keeping requirements
 - banned or undesirable products

REQUIRED SKILLS AND KNOWLEDGE

- personal and business implications of breaching any laws, regulations, government or industry-driven codes of practice or conduct
- offences and penalties relating to offences
- legal restrictions on alcohol use customised to state or territory legislation, including intoxication provisions of liquor licensing laws
- legal drink and drive limits.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- working knowledge and understanding of the relevant state or territory liquor legislation and industry codes and the ramifications of non-compliance for the enterprise and individual staff members
- knowledge of underpinning reasons for and benefits of responsible service of alcohol
- knowledge of principles of responsible service of alcohol and harm minimisation
- ability to apply knowledge of responsible service of alcohol and harm minimisation to alcohol sales or service situations, according to the level of responsibility of the candidate's current job role or the role they are seeking.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure:

- activities that allow the candidate to demonstrate the application of knowledge to specific responsible service of alcohol situations, which might include interaction with others to demonstrate appropriate communication skills
- use of relevant and current publications, signage, information and fact sheets distributed by key government agencies and industry bodies
- use of organisations or individual trainers and assessors approved or accredited by the liquor licensing authority, where required by certain states or territories.

Methods of assessment

A range of assessment methods that comply with assessment requirements set by the relevant state or territory liquor licensing authority should be used to assess the practical skills and knowledge required to sell or serve alcohol responsibly.

Because of the nature of this unit, i.e. intoxication provisions, it may be inappropriate in a training or assessment situation to demonstrate the practical aspects of this competence in the workplace or in a realistic simulation, therefore role-plays or case studies are recommended.

The following examples are appropriate for this unit:

- written and oral questioning or interview to test knowledge of legislation and all other knowledge components of this competency
- role-play by candidate to demonstrate ability to deal with intoxicated persons or refuse sales or service
- case studies and problem-solving activities
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

For holistic purposes, combined training and assessment is appropriate, but determination of competency for this unit must focus on the understanding and implementation of responsible service of alcohol practices that meet the

EVIDENCE GUIDE

requirements of state or territory legislation.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Accurate information may be provided to customers:

- verbally
- by use of mandatory signage
- by use of fact sheets and advertising material that comply with legislative requirements.

Issues related to the sale and service of alcohol may include:

- familiarity with specific customers
- physical stature
- demeanour and mood
- social context
- perceived health status
- perceived effects of illicit and other drug usage.

RANGE STATEMENT

Different types of customers, especially those at risk may include:

- young customers
- women
- minors
- Aboriginal and Torres Strait Islanders
- people from non-English speaking backgrounds
- people affected by the consumption of illicit and other drugs.

Standard drinks or samples should be measured using:

- appropriate nip measures
- electronic dispensing and measuring devices
- appropriately sized sample glasses.

Samples may include tastings of any item for sale in a:

- retail liquor outlet
- winery
- brewery
- distillery
- hospitality venue.

Erratic drinking patterns may include:

- mixing a wide range of drink types
- drinking quickly and asking for more immediately
- ordering more than one drink for self-consumption
- mixing alcohol consumption with consumption of prescription or illicit drugs
- consistently returning to the tasting site to request more samples
- ordering multiple samples
- ordering large samples
- ordering 'triple shots' or extra large drinks.

RANGE STATEMENT

Examples of requests for drinks to be dispensed in a manner that is *irresponsible, or which encourages the rapid or excessive consumption of liquor* may include:

- test tubes
- yard glasses
- laybacks
- jugs of spirits and mixers
- shooters
- rocket fuel
- large samples
- multiple samples for self-consumption.

Changes in behaviour may involve the customer becoming:

- quarrelsome
- disorderly
- aggressive
- violent.

Factors that may affect individual responses to alcohol include:

- gender
- weight
- general health
- rate of consumption
- food intake
- other substances taken, especially illicit and other drugs.

Proof of age according to state or territory liquor legislation includes:

- current driving licence
- proof of age card
- passport.

Intoxicated:

- denotes those to whom service may be refused due to excessive consumption of alcohol
- 'unduly intoxicated' may also be used in some state or territory legislation.

RANGE STATEMENT

Signage may include:

- standard promotional signs issued by the relevant state or territory licensing authority
- signs produced in-house that comply with wording required by legislation
- warning notices within any form of advertising.

Appropriate assistance to customers when refusing sale or service may include:

- organising transport for customers wishing to leave
- providing information on taxis
- assisting the customer to connect with their designated driver
- offering to sell or serve non-alcoholic drinks
- offering alternatives to alcohol, including food.

Appropriate communication and conflict resolution skills may include:

- using open and non-aggressive body language
- using a number of strategies to diffuse a situation, such as taking the person away from an audience or blaming the refusal on the 'law'
- monitoring the reactions of other customers
- picking early warning signs and intervening before the person is intoxicated
- not using physical touch or body language
- remaining calm and using tactful language.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB011A Develop and update food and beverage knowledge

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to develop and maintain the general product knowledge required in food and beverage attending, bar service and catering.

The unit brings together much of the product knowledge that underpins effective work performance in a range of food service roles. It addresses food knowledge and the relationship between different foods and beverages. It focuses on the need for ongoing updating of knowledge by all food and beverage staff. Types of food for which knowledge may be required include traditional or contemporary items and may be of varying ethnic origins.

The specific product knowledge that applies to those mainly involved in beverage service is found in other units such as SITHFAB005A Provide table service of alcoholic beverages and SITHFAB002C Operate a bar. Care should be taken to avoid repetition in training and assessment.

There are also three other higher level units that deal with specialised food and beverage knowledge. They are SITHFAB013A Provide specialist advice on food, SITHFAB025A Provide specialised advice on Australian wines and SITHFAB326A Provide specialised advice on imported wines.

Some States or Territories have legislative requirements in relation to service of alcohol.

Application of the Unit

Application of the unit This unit applies to all food and beverage operations where knowledge of food and beverage is required. It applies to individuals working in a range of enterprises, including restaurants, cafes, hotels, clubs and at cellar doors. Persons requiring this knowledge may work as part of a team with some autonomy and responsibility for own work outputs.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

- | | | |
|---|---|--|
| 1 | Research general information on food and beverages. | <ul style="list-style-type: none"> 1.1 Identify information required to fulfil daily activities associated with the job role. 1.2 Identify suitable <i>sources of required information on food and beverages</i>. 1.3 Develop and maintain <i>current knowledge of food and beverages</i> as required for the job role. |
| 2 | Share information with customers. | <ul style="list-style-type: none"> 2.1 Provide assistance to customers on selection of food and beverage items. 2.2 Offer advice on suitable <i>combinations</i> of food and beverages where appropriate. 2.3 Respond courteously and correctly to customer questions on menus and drinks lists. 2.4 Provide advice on menu items in response to special <i>dietary or cultural requirements</i> of customers. |

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

- The following skills must be assessed as part of this unit:
- safe work practices and specific food safety issues for different types of food
- service styles for different types of food
- communication skills to identify information, provide advice to customers and answer questions
- literacy skills to research information on food and beverages.

The following knowledge must be assessed as part of this unit:

- characteristics of food and beverage items commonly served in hospitality enterprises
- features of commonly prepared dishes appropriate to the industry sector
- traditional accompaniments for different types of food
- compatibility of common food and beverage items
- common cultural and dietary issues and options
- general overview of special dietary requirements, including food exclusions for allergies and food intolerance.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to update and maintain current and relevant knowledge and apply this to the workplace
- project or work activities that allow the candidate to demonstrate the application of knowledge to specific industry contexts and situations.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure:

- interaction with and involvement of customers with varying requirements or requests
- access to a range of sources for researching information.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- projects to research information on food and beverages
- written or oral test on food and beverage knowledge
- evaluation of presentation by candidate on food and beverage knowledge
- workplace activity or role-play to demonstrate provision of food and beverage advice to customers
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

SITHFAB004A Provide food and beverage service.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Sources of required information on food and beverages may include:

- chefs, cooks and other food service personnel
- product suppliers
- general and trade media, including print and electronic
- food and beverage reference books
- recipes and menus
- internet
- trade shows and exhibitions
- food and cooking demonstrations.

Types of ***food*** for which knowledge is required may include:

- appetisers
- soups
- meat, fish and seafood
- vegetables
- desserts and sweets
- snacks
- cheeses
- fruit
- salads
- pre-packaged food items
- specialist cuisine items.

Types of ***beverages*** for which knowledge is required may include:

- wines
- spirits
- liqueurs
- beers
- non-alcoholic drinks.

RANGE STATEMENT

Current knowledge of food and beverages must include:

- current market trends
- typical foods and wines of the local area
- seasonal produce
- enterprise menus and specials
- enterprise trends
- current food and beverage festivals
- promotional activities.

Appropriate *combinations* of food and beverages are based on the following factors:

- customer preferences
- traditional combinations of foods and food and beverages
- achieving balance of textures, colour and nutrition.

Dietary or cultural requirements may include:

- kosher
- halal
- food exclusions for allergies and food intolerance
- vegetarian.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB012B Prepare and serve espresso coffee

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to extract and serve espresso coffee using a commercial espresso machine, including storage of coffee and cleaning, and care and preventative maintenance of machinery. Care and maintenance procedures may vary according to the machine manufacturer recommendations and warranty conditions. Dosage measuring may be mechanical or electronic. Dosing also refers to selecting the correct amount of ground coffee, appropriate particle grind size and prevailing conditions such as ambient humidity. An espresso coffee is the basis of most coffee-based beverages.

The unit does not cover general preparation of coffee using methods of coffee extraction other than espresso machines, which is covered in SITHFAB010C Prepare and serve non-alcoholic beverages.

The terms barista, senior barista and master barista may have different meanings to diverse individuals and groups. Some prefer to make no designation and refer to a barista as someone who is a trained and expert operator.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit This unit applies to hospitality and catering operations where espresso coffee is extracted and served. It reflects the role of an espresso machine operator (barista) and others who make coffee using a commercial espresso machine in a variety of hospitality settings.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Organise and prepare work areas.	1.1 Organise coffee workstation according to workplace safety and hygiene practices, to enable efficient work flow and easy access to <i>equipment</i> and commodities. 1.2 Develop preparation and work routines according to <i>enterprise requirements</i> . 1.3 Complete <i>mise en place</i> and preparation for coffee service according to enterprise procedures. 1.4 Store coffee and commodities in appropriate airtight containers and conditions to maintain quality and freshness, according to workplace hygiene procedures and food safety regulations.
2 Provide customer service and advise customers on espresso coffee.	2.1 Provide advice to customers about coffee types and characteristics where appropriate. 2.2 Determine customer coffee preferences and requirements, and offer <i>coffee style</i> choices and accompaniments accordingly.
3 Select and grind coffee.	3.1 Select coffee and <i>grind</i> to correct particle size, according to enterprise requirements and customer preferences. 3.2 Take into consideration any environmental and equipment factors affecting dosage, and adjust grind and dose accordingly.
4 Extract coffee.	4.1 Select appropriate cups or glassware and ensure they are warm before preparation. 4.2 Measure or dispense required dosage and place into clean filter basket, tamping coffee evenly using correct pressure. 4.3 Ensure group head is clean prior to inserting group handle. 4.4 Monitor water and pump pressure, and moderate between cycles, according to enterprise procedures. 4.5 Analyse extraction rate and adjust where appropriate.

ELEMENT	PERFORMANCE CRITERIA
	<p>4.6 Assess quality of extraction visually and where appropriate by verifying flavour.</p> <p>4.7 Check spent grounds (puck or cake) to identify any required adjustments to dosage and technique.</p> <p>4.8 Release or purge water for two seconds from the group head before placement of group handle to extract coffee.</p>
5 Texture milk.	<p>5.1 Select correct cold milk and appropriate clean, cold jug according to espresso requirements and quantity on order.</p> <p>5.2 Expel excess water from steam wand before and after texturising milk and wipe clean after use.</p> <p>5.3 Texture milk according to milk type and specific order requirements.</p> <p>5.4 Combine foam and milk through rolling, ensuring even consistency.</p> <p>5.5 Pour milk promptly, evenly and consistently, according to coffee style and customer preferences.</p>
6 Serve and present espresso coffee.	<p>6.1 Present coffee attractively using clean ceramic or glass cups and avoiding drips and spills.</p> <p>6.2 Serve coffee at the required temperature, according to customer requirements and style, with appropriate crema, milk froth and accompaniments.</p>
7 Clean and maintain espresso machine.	<p>7.1 Follow required OHS and enterprise requirements throughout all cleaning and maintenance procedures.</p> <p>7.2 Clean all machine and parts thoroughly and safely according to manufacturer specifications and enterprise policies and procedures, using appropriate cleaning methods and recommended cleaning products and materials.</p> <p>7.3 Carry out allied end of service activities.</p> <p>7.4 Monitor and assess the operation and efficiency of the espresso machine and grinder during usage and take appropriate action where required in relation to defects and faults according to enterprise policies and</p>

ELEMENT

PERFORMANCE CRITERIA

procedures, *OHS and warranty requirements*.

- 7.5 Identify situations requiring the attendance of a trained service technician, licensed electrician or a designated senior person within the enterprise.
- 7.6 Use energy and water resources efficiently when preparing coffee and cleaning equipment to reduce negative environmental impacts.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- hygiene and food safety practices related to making, serving and storing coffee, coffee products and service equipment
- techniques for dosing, tamping and purging group head
- extraction and presentation of quality coffee
- milk texturing skills
- safe work practices when using coffee machines and other equipment, including posture at workstation
- numeracy skills to calculate and measure doses of coffee.

The following knowledge must be assessed as part of this unit:

- major coffee styles and their characteristics
- types of bean, blends and roasts with a particular emphasis on espresso roast
- key principles of coffee making
- appropriate pour rate for espresso coffee (industry recommended rate is 30 ml in 27-32 seconds depending on type of espresso coffee ordered, customer preferences and the coffee blend)
- factors that affect quality of coffee
- types of grind and grinding equipment
- types of machines and equipment and their main features and differences
- sizes and types of filter baskets, tampers and other equipment
- different milk types and their characteristics, including requirements for handling and storing milk
- storage conditions and requirements for coffee and commodities
- cleaning and maintenance procedures
- symptoms of potential faults in espresso machines and grinders
- sequencing and production of orders.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the

EVIDENCE GUIDE

performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to recognise quality in espresso coffee, meet customer requirements and expectations, and identify factors affecting quality and required outcomes
- ability to address problems during preparation and service of espresso coffee
- ability to extract and present quality coffee within realistic timelines
- compliance with all workplace hygiene and food safety regulations
- safe work practices in making espresso coffee.

Context of and specific resources for assessment

Assessment must ensure:

- access to a workstation with industry-current commercial espresso machine and appropriate equipment, including:
 - thermometer
 - coffee grinders or mills
 - serviceware, including cups, saucers, glasses, mugs and flatware
 - weighing and measuring equipment
 - storage bins in appropriate sizes and materials
 - blind or blank filters
 - tampers
 - espresso cleaning detergent
 - bins for discarded pucks or grind tubes
- access to a range of coffee types and commodities
- preparation of quantities of coffee items within industry-realistic timeframes for multiple customers simultaneously
- preparation and service of varieties of coffee types to meet various customer requirements.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate:

- direct observation of practical demonstration of extracting and serving coffee over an entire service period
- tasting of coffee prepared by the candidate
- use of video or peer observation
- written or oral questions to assess required knowledge relating to preparing and serving espresso coffee
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

SITXOHS002A Follow workplace hygiene procedures

SITHACS006B Clean premises and equipment

SITHFAB010C Prepare and serve non-alcoholic beverages.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Italicised wording** in the

RANGE STATEMENT

performance criteria is detailed below.

Equipment may include:

- types and brands of coffee grinders or mills and coffee machines
- serviceware, including cups, saucers, mugs and glasses of various sizes
- flatware
- weighing equipment
- measuring equipment
- tampers
- blind or blank filter and espresso cleaning detergent
- thermometer
- storage bins in appropriate sizes and materials
- bins for discarded pucks.

Enterprise requirements may include:

- policies and procedures related to persons authorised and trained to carry out particular activities related to machine operation, adjustment, cleaning and maintenance
- circumstances requiring the services of an authorised and trained technician
- specific requirements for routine and non-routine cleaning and maintenance
- requirements for checking and replacing parts and equipment
- specific requirements for decoration of coffee prior to presentation, such as stencils, logos, sprinkled toppings and coffee art
- policies and procedures for stock control, ordering and rotation.

RANGE STATEMENT

Mise en place and preparation for coffee service include:

- turning on machines to achieve correct pressure and temperature
- setting out cups, mugs, saucers, plates, jugs, glasses and other required serveware
- ensuring adequate supplies of coffee, milk varieties and sugars, including specialised sugars and substitutes
- assembling flavourings and toppings
- laying out flatware, serviettes and wipes.

Coffee styles to be prepared must include:

- short black (espresso)
- long black
- cappuccino
- flat white
- caffe latte
- short and long macchiato
- mocha.

Factors to consider in *grinding* coffee include:

- pre-setting grinder
- sensory analysis of grind, including:
 - visual
 - tactile
 - olfactory
 - tasting of finished product.

RANGE STATEMENT

Cleaning procedures include:

- wiping down entire machine to ensure cleanliness
- purging reservoir of hot water, releasing steam and backwashing the machine with an appropriate cleaning solution
- pouring boiling water to clean drainage pipes
- backflushing the machine at the end of a service cycle, using clean water to ensure no chemical and other residues are left
- cleaning the bean hopper using wet method, and drying thoroughly before refilling and storing
- brushing out dispensers
- cleaning all remaining parts using dry cleaning method
- backflushing group heads according to recommended industry methods, using a blank filter and appropriate machine detergent
- using colour-coded cloths, such as using blue for general cleaning and yellow for cleaning and wrapping steam wands
- wiping steamer wands after each use, using a damp cloth
- where there is build-up or caked-on product, wrapping steamer wands in a clean cloth, opening the valve and allowing hot water, with steam venting, to soften caked-on milk and then wiping with a damp cloth
- washing drip trays
- removing shower screens and diffusers if appropriate, cleaning using wet method and reassembling
- cleaning around the inside of the group head using an appropriate brush or cloth
- cleaning group handle and filter basket and steam arm spout after removing, using the wet method
- using correct and environmentally sound disposal methods for coffee making waste including recyclable glass and plastic bottles and containers.

Cleaning methods must include using a range of techniques, including:

- wet techniques: using warm water with recommended detergent for soaking various parts and cleaning with sponge, damp cloth or scourer (only for group handle)
- dry techniques: using a damp cloth followed by a dry cloth.

RANGE STATEMENT

- End of service activities* include:
- removing beans from hoppers at the end of service day or shift
 - storing according to enterprise requirements.
 -
- Monitor and assess* the espresso machine and grinder may include:
- ensuring the dosing chamber delivers the correct dosage of coffee
 - checking steam and pump pressure
 - stripping the grinder of external working parts, observing required safety procedures according to enterprise requirements.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB016A Plan and monitor espresso coffee service

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to plan and monitor espresso coffee service, including ordering coffee, equipment and commodities; appropriate storage; and supervising coffee service.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to master and senior baristas and requires substantial specialist knowledge of coffee, its history and presentation in a variety of hospitality settings. The unit applies to hospitality and catering operations where espresso coffee is extracted and served.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

This unit must be assessed after the following prerequisite unit:
SITHFAB012B Prepare and serve espresso coffee.

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan coffee service.	1.1 Develop coffee menus and select menu items taking into consideration profit requirements, market focus and demographics, customer preferences and enterprise policies.
	1.2 Select suppliers and roasters, and make purchases according to enterprise requirements, budget and quality.
	1.3 Liaise with suppliers and roasters to ensure coffee meets enterprise requirements.
2 Provide specialist advice on coffee and coffee service.	2.1 Develop and update appropriate <i>information on coffee</i> .
	2.2 Respond to customer questions related to coffee and espresso coffee service.

ELEMENT	PERFORMANCE CRITERIA
	<p>2.3 Provide accurate information to colleagues and staff on coffee and coffee service.</p> <p>2.4 Promote coffee and coffee appreciation at appropriate opportunities.</p> <p>2.5 Display <i>accurate information</i> on coffee and coffee styles for customers where suitable.</p>
3 Monitor quality and service of coffee.	<p>3.1 Identify desirable <i>characteristics</i> of superior espresso coffee.</p> <p>3.2 Evaluate coffee beans to ensure freshness and appropriate oil content.</p> <p>3.3 Monitor grind to ensure correct particle size according to enterprise requirements and customer preferences.</p> <p>3.4 Monitor environmental variations affecting dosage, and adjust grind and dose accordingly.</p> <p>3.5 <i>Evaluate espresso coffee quality</i> through visual and other sensory means and by applying <i>indicators of quality</i>.</p> <p>3.6 Monitor coffee extractions and service according to enterprise practices, ensuring quality and consistency.</p> <p>3.7 Diagnose <i>faults and problems</i> in quality of coffee.</p> <p>3.8 Seek and follow up feedback on coffee quality from customers and staff.</p> <p>3.9 Deal with problems according to nature of problem and enterprise practices.</p> <p>3.10 Ensure coffee and commodities are stored appropriately in suitable containers and conditions.</p> <p>3.11 Ensure coffee items are presented correctly and attractively with suitable accompaniments.</p> <p>3.12 Assess quality and temperature of milk served and ensure it is texturised correctly.</p>
4 Monitor machinery and equipment.	<p>4.1 <i>Monitor espresso coffee machine and other equipment</i> for efficiency and reliability of operation.</p> <p>4.2 Monitor temperature and water pressure according to enterprise requirements.</p>

ELEMENT

PERFORMANCE CRITERIA

- 4.3 Ensure that environmentally sound cleaning, maintenance and waste disposal and recycling regimes and practices are in place.
- 4.4 Identify need for new equipment or parts taking into account relevant *considerations* and evaluate options.
- 4.5 Ensure that self and others follow safe practices and procedures in using machinery and equipment.
- 4.6 Identify situations requiring the attendance of a trained service technician or licensed electrician or actions that might invalidate warranties.
- 4.7 Schedule service calls and replacement of worn parts at appropriate times.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- hygienic and safe work practices related to making, serving and storing coffee and coffee products and service equipment
- work practices for the management of large coffee orders
- diagnosis of problems and faults in coffee
- methods to ensure efficient use of product and to minimise wastage
- customer service and communication skills to liaise with other team members, clarify requirements, provide information and listen to and interpret information and non-verbal communication
- numeracy skills to calculate and measure doses of coffee, and to calculate quantities for ordering supplies and costs.

The following knowledge must be assessed as part of this unit:

- cost and profit issues associated with the provision of espresso coffee service, including product, equipment and pricing of menu items
- flavour characteristics of varieties, types, blends and styles of coffee
- physical and chemical properties of coffee, and the effects of roasting and grinding
- special qualities of coffee arising from country and area of origin, roasting techniques, flavour enhancers and essences, type of grind and freshness
- physical properties of varieties of milk
- history and culture of coffee
- presentation aspects of coffee
- technical operation of machine
- diagnosis and rectification of problems and faults in coffee machines and equipment
- types of grinders and how they work
- impacts on flavour of coffee of machines, cleanliness of machines, temperature and pressure
- regulatory and legislative requirements impacting on coffee and coffee service.

Evidence Guide

EVIDENCE GUIDE

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- in-depth knowledge and understanding of coffee and coffee service
- mastery of skills in extracting coffee
- management of coffee service.

Context of and specific resources for assessment

Assessment must ensure:

- access to a coffee station with a range of industry-current equipment, including:
 - at least three different types and makes of coffee machine
 - thermometer
 - coffee grinders or mills
 - serviceware, including cups, saucers, glasses, mugs and flatware
 - weighing and measuring equipment
 - storage bins in appropriate sizes and materials
 - blind or blank filters
 - tampers
 - espresso cleaning detergent
 - bins for discarded pucks or grind tubes
- demonstration of skills using at least three different types and makes of coffee machine
- access to a range of coffee types and commodities
- work activities that allow the candidate to develop and maintain systems for the service of coffee over a period of time.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- case studies to assess abilities to evaluate coffee, and diagnose and rectify a range of faults
- written or oral questions to test knowledge required to plan and monitor espresso coffee service
- review of workplace documents developed by the candidate, including operational procedures and maintenance schedules for espresso machines and equipment
- testing of candidate's ability to analyse and solve typical problems in coffee service or coffee quality
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITXOHS002A Follow workplace hygiene procedures
- SITXINV002A Control and order stock
- SITXMGT001A Monitor work operations
- SITHPAT012A Plan patisserie operations.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work

RANGE STATEMENT

environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Sources of ***information on coffee*** include:

- talking to product suppliers, roasters and other baristas
- memberships of associations and industry bodies
- reading general and trade media, and supplier information
- attending trade shows
- attending coffee tastings
- reading coffee reference books
- internet.

Accurate information for customers may include:

- coffee items, varieties and available accompaniments
- prices
- brochures about coffee types and grinds
- coffee education programs.

Characteristics of coffee include:

- colour
- appearance, including opacity or transparency
- aroma
- flavour
- taste
- freshness
- presentation.

Evaluate espresso coffee quality includes:

- use of visual and other sensory means, such as smelling and tasting coffee
- customer feedback
- consistency of product.

Indicators of quality include:

- industry and enterprise standards and requirements
- customer feedback
- repeat business
- sales of particular items, coffee types and styles.

RANGE STATEMENT

Faults and problems include:

- equipment breakdown or malfunction
- incorrect or inappropriate use of equipment
- poor quality control or maintenance
- breaches of OHS requirements.

Monitoring espresso coffee machine and other equipment may include:

- removing shower screens and diffusers if appropriate, cleaning using wet method and reassembling
- fine tuning or arranging fine tuning of machines according to manufacturer recommendations and warranty requirements.

Equipment considerations include:

- characteristics and advantages of size and capacity
- cost
- reliability
- service availability
- training in operation
- reputation of supplier.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB222A Conduct a product tasting for alcoholic beverages

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to set up and conduct product tastings of alcoholic beverages.

The focus of this unit is on the practical skills to set up and conduct a tasting, underpinned by a broad general knowledge of alcoholic beverage products and a specific knowledge of products being tasted. The scope and depth of general knowledge will vary according to the work context but is broadly similar to that found in the food and beverage service unit SITHFAB005A Provide table service of alcoholic beverages.

Some states and territories have legislative requirements in relation to service of alcohol that impact on the work activities described in this unit.

Application of the Unit

Application of the unit This unit applies to those conducting product tastings of wines, beers, spirits or liqueurs. It is applicable to people working in a range of environments, such as wineries, restaurants or retail liquor outlets. It may also apply to liquor wholesalers who conduct tastings for retailers.

For those working in roles where a deeper, specialised knowledge of wines and other alcoholic beverages is required, this unit should be combined with all or some of the following units:

- SITHFAB323A Provide advice on beers, spirits and liqueurs
- SITHFAB325A Provide specialised advice on Australian wines
- SITHFAB326A Provide specialised advice on imported wines

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

- SITHFAB009A Provide responsible service of alcohol

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1	Taste and evaluate alcoholic beverages.	1.1 Identify basic characteristics of <i>alcoholic beverages</i> using <i>sensory evaluation techniques</i> .
		1.2 Use information from evaluations in preparation for tastings.
2	Set up and serve tasting samples.	2.1 Set up <i>tasting area, equipment and supplies</i> according to hygiene and other safety requirements.
		2.2 Make tasting environment conducive to effective tasting.
		2.3 Prepare and open products using techniques appropriate to particular product characteristics.
		2.4 Pour and present product to the customer in accordance with legal requirements and workplace policies.
		2.5 Serve tasting samples in order that allows the customer to experience different product characteristics most effectively.
		2.6 Collect and dispose of tasting waste according to safety, hygiene and other enterprise requirements.
3	Interact with customers during tasting.	3.1 Proactively provide relevant and correct information on alcoholic beverage products to customers.
		3.2 Encourage customers to ask questions or provide opinions on products being served.
		3.3 Correctly answer <i>common customer questions about alcoholic beverage</i> products and provide appropriate assistance with selections.

ELEMENT

PERFORMANCE CRITERIA

- 3.4 Encourage and facilitate responsible tasting by customers in accordance with Responsible Service of Alcohol provisions.
- 4 Handle and store alcoholic beverage products.
- 4.1 Handle alcoholic beverage products in a manner that ensures quality is maintained.
- 4.2 Maintain opened products as required by product characteristics.
- 4.3 Store and rotate products to ensure optimum quality and in accordance with workplace procedures.
- 4.4 Identify *common beverage product faults* and apply knowledge to work activities.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- customer service and communication skills to liaise with other team members, clarify requirements, provide information and listen to and interpret information and non-verbal communication
- literacy skills to read and interpret labels and other general information about alcoholic beverages
- literacy skills to read workplace policies and procedures relating to hygiene, safety, legal and enterprise requirements and RSA provisions
- organisational skills to co-ordinate the set up and conduct of a tasting
- problem-solving skills to respond to common wine product faults and routine customer service issues.

The following knowledge must be assessed as part of this unit:

- safety considerations for product tastings, including those around potential set-up hazards and use of glassware
- correct and safe opening procedures for different types of bottled beverages
- ways of ensuring conducive environment for tasting:

maintaining appropriate temperature

neutralising odours

eradicating or reducing noise

optimising light conditions

- hygiene requirements in relation to product tastings, including for handling and use of:

glassware

spittoons

opened products

other tableware

- requirements of the relevant state or territory Liquor Act in relation to service of alcohol (please note that this may be covered by completion of SITHFAB009A Provide responsible service of alcohol).
- general knowledge of wines in relation to:

Australian and international wine types

general features of wine from main Australian wine producing areas

REQUIRED SKILLS AND KNOWLEDGE

compatibility of major Australian and international wine styles to different types of food (general knowledge only)

main grape varieties and wine types, including:

- red, including cabernet sauvignon, shiraz, pinot noir and merlot
- white, including semillon, sauvignon blanc, riesling and chardonnay
- blended wines, including cabernet sauvignon, merlot, semillon and sauvignon blanc
- sparkling wines
- popular fortified wines, including sherry, port, muscat, vermouth, tokay and marsala
- dessert wines
- general knowledge of beers, spirits and liqueurs (including ready to drink products) in relation to:

flavour and characteristics

differences between Australian and imported products

glassware required for different types of beverage

- general knowledge of non-alcoholic beverages
- specific knowledge of products appropriate to the workplace
- general knowledge of storage and handling requirements for different alcoholic beverages
- content of beverage labels and how to interpret them.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- ability to set up and conduct a product tasting in accordance with relevant safety, hygiene and other workplace requirements
- effective interaction with customers
- ability to provide accurate advice about products being tasted
- knowledge of alcoholic beverages as specified under required knowledge.

Context of and specific resources for assessment

Assessment must ensure:

- interaction with and involvement of customers or colleagues with varying requirements or requests about alcoholic beverages
- access to information on alcoholic beverage products.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of candidate interacting with customers during a product tasting
- oral or written questions to assess knowledge of safety and hygiene issues around product tastings
- observation of a presentation on specific beverage products
- review of portfolio of evidence and third-party workplace reports of on-the-job performance by the candidate.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Alcoholic beverages may include:

- still wines
- fortified wines
- sparkling wines
- beer
- spirits
- liqueurs.

Sensory evaluation techniques may include:

- sight, to check for clarity, brightness, and intensity and shade of colour
- smell or nose, aroma and bouquet
- taste components, including bitter, acid, salt, sweet and umami.

Tasting area, equipment and supplies may include:

- glassware
- spittoons or spit buckets
- napkins
- chilling equipment
- ice
- wine lists
- light food
- tasting notes
- evaluation sheets
- promotional and pricing literature
- opening devices
- tables and tableware.

RANGE STATEMENT

Common customer questions about alcoholic beverages may include questions about:

- food and beverage matching
- cellaring requirements
- optimum time to drink
- comparisons between products
- value for money.

Common beverage product faults may include:

- cork problems (drying, shrinking, expansion, oxidation, bleeding and ageing)
- haze
- excessive hydrogen sulphide
- tartrates
- oxidation.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB325A Provide specialised advice on Australian wines

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to provide specialised advice on Australian wines. It also includes some limited underpinning knowledge about imported wine types in the context of placing Australian wines in a world marketplace.

Some states and territories have legislative requirements in relation to service of alcohol that may apply to work activities described in this unit.

Application of the Unit

Application of the unit

This unit applies to all individuals who provide specialised advice to others about Australian wine. It may apply to a specialist wine attendant, sommelier, restaurant supervisor or to a range of other personnel in wineries, retail wine outlets or wine wholesalers.

Skills and knowledge for imported wines are found in the unit SITHFAB326A Provide specialised advice on imported wines.

The provision of wine advice could be undertaken in various contexts and will depend on the job role. This may include serving wine, contributing to the development of wine lists, selling or promoting wine or conducting a tour of a winery.

The unit also underpins effective achievement of competence in the unit SITHFAB428A Manage the sale or service of wine.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

- SITHFAB009A Provide responsible service of alcohol
- SITHFAB005A Provide table service of alcoholic beverages
- SITHFAB222A Conduct a product tasting for alcoholic beverages

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

- | | |
|------------------------------|--|
| 1 Evaluate Australian wines. | 1.1 Identify and explore the characteristics of a range of <i>Australian wines</i> using the full range of <i>sensory evaluation techniques</i> . |
| | 1.2 Review <i>other information</i> about viticulture and specific wine styles, regions and production methods to complement the sensory evaluation process |

ELEMENT	PERFORMANCE CRITERIA
	1.3 Develop informed opinions about Australian wines that support <i>work as a specialist in wine</i> .
2 Handle, store and monitor Australian wine products.	2.1 Store and cellar Australian wine according to <i>particular requirements</i> of different wines. 2.2 Monitor wine quality and recognise <i>impaired quality</i> based on in depth knowledge of Australian wines. 2.3 Where required, serve wine appropriately and at the correct temperature according to type and style of wine and customer preference. 2.4 Decant wines using techniques appropriate to the variety, style and vintage of wine.
3 Advise customers on Australian wines.	3.1 Provide accurate information and assistance on different Australian wine options. 3.2 Discuss and debate wine characteristics, origins and production methods with customers, taking account of the customers' level of wine knowledge. 3.3 Take account of <i>appropriate and ethical business considerations</i> when providing advice and make adjustments accordingly. 3.4 Assist customers with wine selections according to taste, price preferences and other specific needs. 3.5 Resolve issues with wine quality through accurate identification of faults and appropriate corrective action.
4 Extend and update own knowledge of Australian wines.	4.1 Conduct <i>formal and informal research</i> to access current, accurate and relevant information about wines. 4.2 Identify trends in customer tastes based on direct contact and workplace experience. 4.3 Identify general trends in the wine market and apply to the workplace as appropriate. 4.4 Provide assistance in the design, content and pricing of wine list as required.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- communication skills to articulate advice on wines, and to discuss and debate different ideas and opinions about wines
- critical thinking skills to evaluate wide ranging information about wines and apply and adapt information to wine specialist activities
- literacy skills to research and interpret detailed information about wines from a variety of sources
- problem-solving skills to identify product faults and make judgments about appropriate remedial action.

The following knowledge must be assessed as part of this unit:

- the full range of sensory evaluation techniques and their relevance to different types of wines
- structure, history, trends and philosophies of the Australian wine industry
- general understanding of the operation of wine shows and wine medal systems in an Australian context
- characteristics of major Australian wines, including:

different wine types and their styles

different production methods

label terminology and interpretation

major regional variations

principal grape varieties used in wine types

the place of Australian wines in the international marketplace

how Australian wines compare with imported wines in terms of general types and styles

- general knowledge of Australian geography in relation to its impact on wine growing
- climatic classification of Australian grape-growing regions registered by the Geographical Indications Committee, including factors that influence the character of wine
- impact of the vineyard and viticultural techniques affecting the taste and style of wine
- annual cycle of a general vineyard and regional specific cycles
- wine production methods and variations for white, red, sparkling and fortified wines, including:

basic wine production steps and variations for different wines (harvesting, crushing, pressing,

REQUIRED SKILLS AND KNOWLEDGE

fermentation, clarification, maturing, bottling)

- new world approaches to wine making
- specific production techniques for white wine (additional clarification process - before and after fermentation, pressing, malolactic fermentation and oak usage)
- specific production techniques for red wine (fermentation on the skins, maceration techniques such as pumping over, plunging down, heading down and rotary fermenters)
- specific production techniques for sparkling wines such as *traditionelle*, the transfer process, tank fermentation and carbonation
- specific techniques for fortified wines
- factors that affect the style and quality of wine, including:

climate

soil

grape variety

viticultural techniques

storage

vinification techniques

- key structural components in wine and their impact on taste , including alcohol, tannin, sugar, fruit flavour
- indicators of quality in wines and analysis and diagnosis of wine faults or impairments, including:

oxidation

tartrates

cloudiness

cork faults

presence of hydrogen sulphide

- wine service techniques, including serving aged wines and processes for the decanting of wine
- storage and cellaring requirements for a range of wines and reasons for these
- contributing factors of a successful wine list
- overview of the types of foods that match successfully with different wines (more detailed food matching skills are found in the unit SITHFAB324A Provide specialised advice on food and beverage matching)
- requirements of the relevant state or territory Liquor Act in relation to service of alcohol (please note that this may be covered by completion of SITHFAB009A Provide responsible service of alcohol).

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- identification of different characteristics of Australian wines using sensory evaluation techniques
- knowledge of Australian wines, as detailed under required knowledge
- ability to maintain and extend current and relevant knowledge of Australian wines and to apply that knowledge to different workplace activities.

Context of and specific resources for assessment

Assessment must ensure:

- interaction with and involvement of other people to discuss Australian wine characteristics and options and to answer varied questions about wines
- access to a wide range of Australian wines and to information on wines.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of candidate providing advice to customers or colleagues on wine
- oral or written questions to assess knowledge of wine
- observation of a presentation on wine
- observation of candidate evaluating wines and providing opinions
- research project to develop information about wines for use in particular workplace context
- review of wine lists written by the candidate for particular contexts and purposes
- review of portfolio of evidence and third-party workplace reports of on-the-job performance by the candidate.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Australian wines must include wines from:

- all major and emerging Australian wine regions.

RANGE STATEMENT

Sensory evaluation techniques must include:

- visual appraisal:
 - wine swirling and glass handling
 - use of light and background
 - intensity and type of colour
 - clarity
 - identifying 'legs' or 'tears' to assess alcohol or glycerol content
- smell or nose appraisal:
 - techniques for releasing aroma and bouquet
 - recognising 'off' odours
 - assessing intensity of aromas
 - describing smell characteristics (eg fruity, vegetal, spicy)
 - assessing age
- taste appraisal:
 - techniques for releasing wine flavours (sucking in air, swirling wine over taste buds)
 - spitting techniques
 - recognising acidity, sweetness, weight or body, length, note, wine faults
- assessing balance of wine features on the palate.

Other information may include:

- promotional information
- details of production methods
- reference texts on wines
- product reviews
- presentation sessions from growers, wholesalers, distributors
- information on wines currently listed in the Australian Wine and Brandy Corporation (AWBA) Register of Protected Names.

RANGE STATEMENT

Work as a specialist in wine may involve:

- making presentations on wine
- selling wine to corporations
- selling wine to individuals
- conducting specialised wine tastings
- developing wine list suggestions
- providing winery tours.

Particular requirements may relate to:

- temperature
- humidity
- stock rotation
- shelf life
- amount of UV light
- vibrations.

Impaired quality might relate to:

- oxidation
- tartrates
- cloudiness
- cork faults
- presence of hydrogen sulphide.

Appropriate and ethical business considerations may include:

- profitability requirements
- current stock
- supplier arrangements
- stock availability
- range being promoted.

Formal and informal research may include:

- talking to product suppliers, winemakers and vineyard managers
- memberships of associations and industry bodies
- reading general and trade media and supplier information
- attending trade shows
- attending wine tastings
- reading wine reference books
- using the internet.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHFAB326A Provide specialised advice on imported wines

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to provide specialised advice on imported wines.

Some states and territories have legislative requirements in relation to service of alcohol that may apply to work activities described in this unit.

Application of the Unit

Application of the unit

This unit applies to all individuals who provide specialised advice to others about imported wine. It may apply to a specialised wine attendant, sommelier, restaurant supervisor or to a range of other personnel in wineries, retail wine outlets or wine wholesalers.

Skills and knowledge for Australian wines are found in the unit SITHFAB325A Provide specialised advice on Australian wines.

The provision of wine advice could be undertaken in various contexts and will depend on the job role. This may include serving wine, contributing to the development of wine lists, selling or promoting wine or conducting a tour of a winery.

The unit also underpins effective achievement of competence in the unit SITHFAB428A Manage the sale or service of wine.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

- SITHFAB009A Provide responsible service of alcohol
- SITHFAB005A Provide table service of alcoholic beverages
- SITHFAB222A Conduct a product tasting for alcoholic beverages

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

- | | |
|----------------------------|--|
| 1 Evaluate imported wines. | 1.1 Identify and explore the characteristics of a range of <i>imported wines</i> using the full range of <i>sensory evaluation techniques</i> . |
| | 1.2 Review <i>other information</i> about viticulture and specific imported wine styles, regions and production methods to complement the sensory evaluation process. |

ELEMENT	PERFORMANCE CRITERIA
	1.3 Develop informed opinions about imported wine that support <i>work as a specialist in wine</i> .
2 Handle, store and monitor imported wine products.	2.1 Store and cellar imported wine according to <i>particular requirements</i> of different wines. 2.2 Monitor wine quality and recognise <i>impaired quality</i> based on in depth knowledge of wines. 2.3 Where required, serve wine appropriately and at the correct temperature according to type and style of wine and customer preference. 2.4 Decant wines using techniques appropriate to the variety, style and vintage of wine.
3 Advise customers on imported wines.	3.1 Provide accurate information and assistance about different imported wine options. 3.2 Discuss and debate wine characteristics, origins and production methods with customers, taking account of the customer's level of wine knowledge. 3.3 Take account of appropriate and <i>ethical business considerations</i> when providing advice and make adjustments accordingly. 3.4 Assist customers with wine selections according to taste, price preferences and other specific needs. 3.5 Resolve issues with wine quality through accurate identification of faults and appropriate corrective action.
4 Extend and update own knowledge imported wines.	4.1 Conduct <i>formal and informal research</i> to access current, accurate and relevant information about imported wines. 4.2 Identify trends in customer tastes based on direct contact and workplace experience. 4.3 Identify general trends in the imported wine market and apply to the workplace as appropriate. 4.4 Provide assistance in the design, content and pricing of international wine list as required.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- communication skills to articulate advice about wines, and to discuss and debate different ideas and opinions about wines
- critical thinking skills to evaluate wide ranging information about wines and apply and adapt information to wine specialist activities
- literacy skills to research and interpret detailed information about wines from a variety of sources
- problem-solving skills to identify product faults and make judgments about appropriate remedial action.

The following knowledge must be assessed as part of this unit:

- the full range of sensory evaluation techniques and their relevance to different types of wines
- structure, history, trends and philosophies of:
 - the international wine industry
 - the major international wine producing nations
 - general understanding of the operation of wine shows and wine medal systems in an international context
- characteristics of major international wines, including:
 - different wine types and their styles
 - different production methods
 - label terminology and interpretation
 - major regional variations
 - principal grape varieties used in wine types
 - major European wine laws
- general knowledge of relevant geography in relation to its impact on wine growing
- impact of the vineyard and viticultural techniques affecting the taste and style of wine
- annual cycle of a general vineyard and regional specific cycles
- wine production methods and variations for white, red, sparkling and fortified wines, including:
 - basic wine production steps and variations for different wines (harvesting, crushing, pressing, fermentation, clarification, maturing, bottling)
 - old world approaches to wine making and attitudes to new world wine making
 - specific production techniques for white wine (additional clarification process - before

REQUIRED SKILLS AND KNOWLEDGE

- and after fermentation, pressing, malolactic fermentation and oak usage)
- specific production techniques for red wine (fermentation on the skins, maceration techniques such as pumping over, plunging down, heading down and rotary fermenters)
- specific production techniques for sparkling wines such as *traditionelle*, the transfer process, tank fermentation and carbonation
- specific production techniques for fortified wines
- factors that affect the style and quality of wine, including:
 - climate
 - soil
 - grape variety
 - viticultural techniques
 - storage
 - vinification techniques
- key structural components in wine and their impact on taste , including alcohol, tannin, sugar, fruit flavour
- indicators of quality in wines and analysis and diagnosis of wine faults or impairments, including:
 - oxidation
 - tartrates
 - cloudiness
 - cork faults
 - presence of hydrogen sulphide
- wine service techniques, including serving aged wines and processes for the decanting of wine
- storage and cellaring requirements for a range of wines and reasons for these contributing factors of a successful wine list
- overview of the types of foods that match successfully with different wines (more detailed food matching skills are found in the SITHFAB324A Provide specialised advice on food and beverage matching
- requirements of the relevant state or territory Liquor Act in relation to service of alcohol (please note that this may be covered by completion of SITHFAB009A Provide responsible service of alcohol).

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment

EVIDENCE GUIDE

Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- identification of wine characteristics, style, country and region of origin, vintage and production method using sensory evaluation techniques
- detailed knowledge of imported wines as specified under required knowledge
- effective communication of wine advice to customers
- ability to maintain and extend current and relevant knowledge of wines and to apply that knowledge to different workplace activities.

Context of and specific resources for assessment

Assessment must ensure:

- interaction with and involvement of other people to discuss wine characteristics and options and to answer varied questions about wines
- access to a wide range of wines and to information on wines.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of candidate providing advice to customers or colleagues on wine
- oral or written questions to assess knowledge of wine
- observation of a presentation on wine
- observation of candidate evaluating wines and providing opinions
- research project to develop information about wines for use in particular workplace context
- review of wine lists written by the candidate for particular contexts and purposes
- review of portfolio of evidence and third-party workplace reports of on-the-job performance by the candidate.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Imported wines must include wines from:

- Europe - France, Italy, Germany, Greece, Spain, Portugal, Central and South Western Europe
- North and South America
- New Zealand
- South Africa
- emerging wine growing countries.

Sensory evaluation techniques must include:

- visual appraisal:
 - wine swirling and glass handling
 - use of light and background
 - intensity and type of colour
 - clarity
 - identifying 'legs' or 'tears' to assess alcohol / glycerol content
- smell or nose appraisal:
 - techniques for releasing aroma and bouquet
 - recognising 'off' odours
 - assessing intensity of aromas
 - describing smell characteristics (eg fruity, vegetal, spicy)
 - assessing age
- taste appraisal:
 - techniques for releasing wine flavours (sucking in air, swirling wine over taste buds)
 - spitting techniques
 - recognising acidity, sweetness, weight or body, length, wine faults
 - assessing balance of wine features on the palate.

RANGE STATEMENT

Other information may include:

- promotional information
- details of production methods
- reference texts on wines
- product reviews
- presentation sessions from growers, wholesalers, distributors, visiting winemakers.

Work as a specialist in wine might involve:

- making presentations on wine
- selling wine to corporations
- selling wine to individuals
- conducting specialised wine tastings
- developing wine list suggestions
- providing winery tours.

Particular requirements may relate to:

- temperature
- humidity
- stock rotation
- shelf life
- amount of UV light
- vibrations.

Impaired quality might relate to:

- oxidation
- tartrates
- cloudiness
- cork faults
- presence of hydrogen sulphide.

Appropriate and ethical business considerations may include:

- profitability requirements
- current stock
- supplier arrangements
- stock availability
- range being promoted.

RANGE STATEMENT

Formal and informal research may include:

- talking to product suppliers, winemakers and vineyard managers
- memberships of associations and industry bodies
- reading general and trade media and supplier information
- attending trade shows
- attending wine tastings
- reading wine reference books
- using the internet.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Food and Beverage

SITHPAT001A Prepare and produce pastries

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare and produce a variety of high-quality pastries and pastry products.

Pastries and pastry products to be produced and decorated may be of varied cultural origins and derived from classical or contemporary recipes.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to patissiers working in various hospitality enterprises such as patisseries, restaurants, hotels and coffee shops.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

This unit must be assessed after the following prerequisite unit:
SITHOHS002A Follow workplace hygiene procedures.

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare pastries and pastry products.	<p>1.1 Prepare a variety of <i>pastries and pastry products</i> according to standard recipes and desired <i>product characteristics</i>.</p> <p>1.2 Select suitable ingredients according to recipe requirements, quality, freshness and desired product characteristics.</p> <p>1.3 Make paste and pastry products using correct <i>techniques</i> and ensuring appropriate <i>conditions</i> to optimise quality.</p> <p>1.4 Apply portion control to minimise wastage.</p> <p>1.5 Use <i>appropriate equipment</i> to produce required pastries and pastry products.</p> <p>1.6 Select required oven temperature and bake to ensure the</p>

ELEMENT	PERFORMANCE CRITERIA
	desired characteristics, including colour, shape and crust structure.
2 Decorate and present pastry products.	2.1 Decorate pastry products, to enhance appearance, using suitable <i>fillings</i> , icings and decorations, according to standard recipes, enterprise standards and customer preferences. 2.2 Present pastries attractively using suitable serveware and <i>decorations</i> .
3 Store pastries.	3.1 Store pastes and ingredients for pastry products, optimising quality and shelf life through appropriate storage methods. 3.2 Store pastry products to minimise spoilage and wastage, identifying <i>storage conditions</i> and using methods appropriate to specific products for short and medium-term preservation.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- principles and practices of hygiene, particularly in relation to handling pastes and dough
- safe work practices, particularly in relation to using cutting implements, appliances, heated surfaces, ovens and mixing equipment
- hygiene and safe handling and storage requirements related to pastry ingredients, commodities and products
- problem-solving skills to control quality
- literacy skills to read recipes, menus and instructions
- numeracy skills to calculate portions, and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- varieties and characteristics of pastes and pastry products, both classical and contemporary
- historical and cultural aspects of pastry and pastry products
- underlying principles of making pastry and pastry products
- commodity knowledge, including quality indicators of pastry ingredients
- culinary terms commonly used in the industry related to pastries and pastry products
- portion control and yield
- storage conditions for pastries and pastry products and optimising shelf life.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to produce a wide variety of pastries and pastry products from all categories
- ability to produce a quantity of pastries and pastry products, consistent in quality, size, shape and appearance, under typical workplace conditions and time constraints
- application of hygiene and safety principles throughout the preparation process
- decoration and presentation of a range of pastries and pastry products within typical workplace conditions.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a pastry kitchen, as defined in the Assessment Guidelines
- access to industry-current equipment for making pastries and pastry products, including a deck oven
- use of authentic ingredients.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of practical demonstration by the candidate of preparing, decorating and presenting pastries and pastry products
- questions about hygiene procedures, commodities, production techniques and storage requirements
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHPAT002A Prepare and produce cakes
- SITHPAT003A Prepare and produce yeast goods
- SITHPAT004A Prepare bakery products for patisseries.

EVIDENCE GUIDE

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

RANGE STATEMENT

Pastries and pastry products must include a basic selection from each of the following categories:

- short and sweet paste, including:
 - flans
 - tarts
 - fruit tartlets
- Scotch shortbread, including:
 - Viennese wafers
 - Linzer and other slices
 - savoury and sweet pies
- choux paste, including:
 - profiteroles
 - éclairs
 - croquembouche
 - Saint Honoré
- puff paste, including:
 - milles feuilles
 - palmiers
 - quiches
 - croissants
 - gateaux pithiviers
 - bouchées
 - cream horns
- filo or strudel
- Danish pastries.

Product characteristics must include:

- colour
- consistency and texture
- crust stability
- moisture content
- mouth feel and eating properties
- appearance.

RANGE STATEMENT

Techniques and conditions for producing pastry and pastry products may include:

- chilling ingredients and work surfaces where required
- kneading and handling
- rolling
- cutting and moulding
- resting
- preparing and using appropriate fillings and pre-bake and post-bake finishes and decorations.

Appropriate equipment may include:

- commercial mixers and attachments
- cutting implements
- scales
- measures
- bowl cutters
- ovens
- moulds, shapes and cutters
- piping bags and attachments.
-

Fillings may include:

- fresh or crystallised fruit and fruit purées
- whole or crushed nuts
- cream
- custard
- meringue.

Decorations may include:

- glazes
- jellies
- fruit purées
- icings
- fresh, preserved or crystallised fruits
- nuts
- fillings, including cream, mousse and fruit purées.

Storage conditions and methods appropriate to specific pastry products may include:

- consideration of temperature, light and air exposure
- use of airtight containers
- display cabinets, including temperature-controlled cabinets
- refrigeration, chilling and freezing.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Patisserie

SITHPAT002A Prepare and produce cakes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare and produce a variety of high-quality cakes. It does not include specialised cakes such as gateaux and torten, which are covered in SITHPAT005A Produce gateaux, torten and cakes.

Cakes to be produced and decorated may be of varied cultural origins and derived from classical or contemporary recipes.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to patissiers working in various hospitality enterprises such as patisseries, restaurants, hotels and coffee shops.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite unit:
SITHOHS002A Follow workplace hygiene procedures

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare and produce cakes.	<p>1.1 Prepare a variety of <i>basic cakes</i> according to standard recipes and desired <i>product characteristics</i>.</p> <p>1.2 Select suitable ingredients according to recipe requirements, quality, freshness and desired product characteristics.</p> <p>1.3 Make cakes using correct <i>techniques</i> and ensuring appropriate <i>conditions</i> to optimise quality.</p>

ELEMENT	PERFORMANCE CRITERIA
	1.4 Use <i>appropriate equipment</i> to produce required cakes.
	1.5 Select required oven temperature and bake cakes to ensure the desired characteristics, including colour and shape.
2 Decorate and present cakes.	2.1 Decorate cakes to enhance appearance, using suitable <i>fillings</i> , icings and <i>decorations</i> , according to standard recipes, enterprise standards and customer preferences.
	2.2 Present cakes attractively using suitable serveware and decorations.
3 Store cakes.	3.1 Store cakes and ingredients for cake products, optimising quality and shelf life through appropriate storage methods.
	3.2 Store cakes to minimise spoilage and wastage, identifying <i>storage conditions</i> and using methods appropriate to specific products for short and medium-term preservation.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- safe work practices, particularly in relation to using cutting implements, appliances, heated surfaces, ovens and mixing equipment
- problem-solving skills to control quality
- literacy skills to read recipes, menus and instructions
- numeracy skills to calculate portions, and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- varieties and characteristics of basic cakes, both classical and contemporary
- historical and cultural aspects of cakes
- underlying principles of making cakes
- commodity knowledge, including quality indicators of cake ingredients
- principles and practices of hygiene particularly in relation to preparing cake batter and decorating finished cake products
- culinary terms commonly used in the industry related to cakes
- hygiene and safe handling and storage requirements related to cake ingredients, commodities and products
- portion control and yield
- storage conditions for cakes and optimising shelf life.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to produce a range of basic cakes
- ability to produce cakes that are consistent in quality, size, shape and appearance under typical workplace conditions and time constraints

EVIDENCE GUIDE

- application of hygiene and safety principles throughout the preparation process
- preparation, decoration and presentation of a range of basic cakes within typical workplace conditions.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a pastry kitchen as defined in the Assessment Guidelines, using industry-current equipment for making cakes
- use of authentic ingredients.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of practical demonstration by the candidate of preparing, decorating and presenting cakes
- questions about hygiene procedures, commodities, production techniques and storage requirements
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHPAT001A Prepare and produce pastries
- SITHPAT003A Prepare and produce yeast goods.
- SITHPAT004A Prepare bakery products for patisseries.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Basic cakes refer to a small range of cakes and sponges and must include:

- Madeira cake
- Genoise sponge
- basic aerated sponge
- Swiss roll
- fruit cake.

Product characteristics must include:

- colour
- consistency and texture
- moisture content
- mouth feel and eating properties
- appearance.

Techniques and conditions for producing cakes may include:

- weighing or measuring and sifting dry ingredients
- adding fats and liquids to dry ingredients
- stirring and aerating to achieve required consistency and texture
- selecting and preparing appropriate cake tins and moulds
- using required amount of batter according to desired characteristics of finished products
- preparing and using appropriate pre-bake finishes and decorations
- selecting baking conditions and temperatures.

RANGE STATEMENT

Appropriate equipment may include:

- commercial mixers and attachments
- whisks
- beaters
- spatulas
- wooden spoons
- cutting implements for nuts and fruits
- graters
- scales
- measures
- bowl cutters
- piping bags and attachments
- ovens
- cake tins and moulds.

Fillings may include:

- fresh and crystallised fruit
- fruit purées
- jams
- nuts
- creams
- mousse
- custard.

Decorations may include:

- glazes and jellies
- icings
- chocolate
- sprinkled icing sugar
- fresh, preserved or crystallised fruits
- fruit purées
- whole or crushed nuts
- coloured and flavoured sugar.

Storage conditions and methods appropriate for cakes may include:

- consideration of temperature, light and air exposure
- use of airtight containers
- display cabinets, including temperature-controlled cabinets
- refrigeration, chilling and freezing.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Patisserie

SITHPAT003A Prepare and produce yeast goods

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare and produce a variety of high-quality yeast goods.

Yeast goods to be produced and decorated may be of varied cultural origins and derived from classical or contemporary recipes.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to hospitality enterprises where yeast goods are prepared and served, such as patisseries, restaurants, hotels and coffee shops.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite unit:
SITHOHS002A Follow workplace hygiene procedures

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare and produce yeast goods.	<p>1.1 Prepare a variety of basic <i>yeast goods</i> according to standard recipes and desired <i>product characteristics</i>.</p> <p>1.2 Select suitable ingredients according to recipe requirements, quality and freshness and desired product characteristics.</p> <p>1.3 Make basic yeast goods, using correct <i>techniques</i> and</p>

ELEMENT	PERFORMANCE CRITERIA
	ensuring appropriate <i>conditions</i> to optimise quality.
	1.4 Use <i>appropriate equipment</i> to produce required yeast goods.
	1.5 Select required oven temperature and bake yeast goods to ensure the desired characteristics, including colour and shape.
2 Decorate and present yeast goods.	2.1 Decorate yeast goods, where required and appropriate, to enhance appearance, using suitable <i>fillings</i> , icings and <i>decorations</i> , according to standard recipes, enterprise standards and customer preferences.
	2.2 Present yeast goods attractively using suitable serviceware and decorations.
3 Store yeast goods.	3.1 Store yeast goods and ingredients for yeast good products, optimising quality and shelf life through appropriate storage methods.
	3.2 Store yeast goods to minimise spoilage and wastage, identifying <i>storage conditions</i> and using methods appropriate to specific products for short and medium-term preservation.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- safe work practices, particularly in relation to using cutting implements, appliances, heated surfaces, ovens and mixing and kneading equipment
- problem-solving skills to control quality
- literacy skills to read recipes, menus, instructions and orders
- numeracy skills to calculate portions, and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- varieties and characteristics of basic yeast goods, both classical and contemporary
- historical and cultural aspects of yeast goods
- underlying principles of making yeast goods
- commodity knowledge, including quality indicators of ingredients for yeast goods
- principles and practices of hygiene particularly in relation to handling dough
- culinary terms commonly used in the industry related to yeast goods
- hygiene and safe handling and storage requirements related to yeast goods, commodities and products
- portion control and yield
- storage conditions for yeast goods and optimising shelf life.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to produce a range of sweet and savoury yeast goods
- ability to produce a quantity of yeast goods that are consistent in quality, size, shape and appearance, under typical workplace conditions and time constraints
- application of hygiene and safety principles throughout the preparation process
- preparation, decoration and presentation of a range of yeast goods, within typical workplace conditions.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a pastry kitchen as defined in the Assessment Guidelines, using industry-current equipment for making yeast goods, including a proofer and marble bench
- use of authentic ingredients.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of practical demonstration by the candidate of preparing, decorating and presenting yeast goods
- questions about hygiene procedures, commodities, production techniques and storage requirements
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

SITHPAT001A Prepare and produce pastries

SITHPAT002A Prepare and produce cakes.

SITHPAT004A Prepare bakery products for patisseries.

EVIDENCE GUIDE

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Yeast goods refer to a range of sweet and savoury breads, rolls and buns, and must include:

- basic breads and buns, such as:
 - Bath buns
 - bread rolls
- yeast-raised pastries, such as:
 - Danish pastries
 - croissants
 - brioche
 - küchen
 - babas
 - savarins.

Product characteristics must include:

- colour
- consistency and texture
- moisture content
- mouth feel and eating properties
- appearance.

RANGE STATEMENT

Techniques and conditions for producing yeast goods may include:

- chilling ingredients and work surfaces
- kneading and handling
- incorporating fat
- rolling
- preparing and using types of yeast
- cutting, shaping and moulding
- preparing and using appropriate fillings and pre-bake finishes and decorations.

Appropriate equipment may include:

- commercial mixers and attachments
- cutting implements
- scales
- measures
- bowl cutters
- piping bags and attachments
- ovens
- moulds, shapes and cutters
- baking sheets.

Fillings may include:

- fresh or crystallised fruit and fruit purées
- whole or crushed nuts
- spices
- cream
- frangipane
- custard
- chocolate
- jam
- savoury fillings such as ham and cheese.

RANGE STATEMENT

Decorations may include:

- glazes
- jellies
- fruit purées
- icings
- sprinkled icing sugar
- flavoured and coloured sugars
- fresh, preserved or crystallised fruits
- nuts
- fillings, including cream, mousse and fruit purées.

Storage conditions and methods appropriate to yeast goods may include:

- consideration of temperature, light and air exposure
- use of airtight containers
- display cabinets, including temperature-controlled cabinets to cool or warm
- refrigeration, chilling and freezing.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Patisserie

SITHPAT004A Prepare bakery products for patisseries

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare and produce a variety of high-quality bakery products.

Bakery products to be produced may be of varied cultural and ethnic origins and derived from classical or contemporary recipes.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to patissiers in hospitality enterprises where bakery items are prepared, such as patisseries, specialist bakeries, hotels, restaurants and coffee shops.

Bakery products to be produced may be of varied cultural and ethnic origins and derived from classical or contemporary recipes.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite unit:
SITHOHS002A Follow workplace hygiene procedures

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare bakery products.	<p>1.1 Prepare a variety of <i>bakery products</i> according to standard recipes and desired <i>product characteristics</i>.</p> <p>1.2 Select, measure and weigh suitable ingredients according to recipe requirements, quality, freshness and desired product characteristics.</p> <p>1.3 Use <i>appropriate equipment</i> to produce required bakery</p>

ELEMENT	PERFORMANCE CRITERIA
	products.
	1.4 Prepare dough to correct consistency and shape.
	1.5 Prove products according to specified temperature and other conditions.
	1.6 Make bakery products, using correct <i>techniques</i> and ensuring appropriate <i>conditions</i> to optimise quality.
	1.7 Select required oven temperature and bake goods to ensure the desired characteristics, according to standard recipe specifications and enterprise practice.
2 Decorate and present bakery products.	2.1 Finish bakery items according to desired product characteristics.
	2.2 Decorate yeast goods where required and appropriate to enhance appearance, using suitable <i>fillings</i> , icings and <i>decorations</i> , according to standard recipes, enterprise standards and customer preferences.
	2.3 Present yeast goods attractively using suitable serviceware and decorations.
3 Store bakery products.	3.1 Store bakery products in <i>storage conditions</i> required to maintain quality and extend shelf life.
	3.2 Select packaging options appropriate for the preservation of product freshness and eating characteristics.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- safe work practices, particularly in relation to using cutting implements, appliances, heated surfaces, ovens, manual handling, and mixing and kneading equipment
- problem-solving skills to control quality
- literacy skills to read recipes, menus and instructions
- numeracy skills to calculate portions and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- varieties and characteristics of bakery products, including:
 - classical
 - contemporary
 - from various ethnic and cultural backgrounds
- historical and cultural aspects of bakery products
- underlying principles of making bakery products
- culinary and technical terms commonly used in the industry related to bakery products
- commodity knowledge, including quality indicators of ingredients for bakery products, properties of ingredients used, and their interaction and changes during processing to produce required characteristics
- properties and requirements of yeast and control of yeast action
- processes of fermentation and dough development
- principles and practices of hygiene, particularly in relation to handling dough, commodities and products
- safe work practices, particularly in relation to using cutting implements, appliances, heated surfaces, ovens, manual handling and mixing or kneading equipment
- function and routine maintenance of equipment used
- storage conditions for bakery products and optimising shelf life
- ratio of ingredients required to produce a balanced formula
- defining and applying corrective steps to ensure quality control
- influence of correct portion control, yields, weights and sizes on the profitability of an establishment
- portion control and yield
- expected taste, texture and crumb structure appropriate for particular bakery products.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to produce a range of specialist bakery products, both sweet and savoury
- ability to produce a quantity of bakery products that are consistent in quality, size, shape and appearance, under typical workplace conditions and time constraints
- application of hygiene and safety principles throughout the preparation process
- preparation, decoration and presentation of a range of specialist bakery products, within typical workplace conditions.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a pastry kitchen as defined in the Assessment Guidelines, using industry-current equipment for making a variety of specialist bakery products, including specialty bread moulds
- use of authentic ingredients.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of practical demonstration by the candidate of preparing, decorating and presenting specialist bakery products
- questions about hygiene procedures, commodities, production techniques and storage requirements
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHPAT001A Prepare and produce pastries
- SITHPAT002A Prepare and produce cakes
- SITHPAT003A Prepare and produce yeast goods.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Bold italicised wording** in the performance criteria is detailed below.

RANGE STATEMENT

Bakery products must include a selection of each of the following:

- breakfast and savoury items
- breakfast and speciality breads
- lunch and dinner rolls
- festive baking from a variety of ethnic and cultural backgrounds.

Product characteristics must include:

- colour
- consistency and texture
- moisture content
- mouth feel and eating properties
- appearance.

Appropriate equipment may include:

- commercial mixers and attachments
- cutting implements
- scales
- measures
- bowl cutters
- ovens
- moulds, shapes and cutters
- baking sheets and containers.

Techniques and conditions for producing yeast goods may include:

- chilling ingredients and work surfaces
- preparing and using types of yeast
- kneading and handling
- incorporating fat
- rolling
- cutting, shaping and moulding
- preparing and using appropriate fillings and pre-bake finishes and decorations.

RANGE STATEMENT

Fillings may include:

- fresh or crystallised fruit-based
- whole or crushed nuts
- fresh cream
- butter cream
- wine cream
- cheese cream
- chocolate
- jam
- custard
- ganache
- savoury fillings such as bacon, ham and cheese
- ready-made and pre-mixed.

Decorations may include:

- glazes
- jellies
- icings
- sprinkled icing sugar
- flavoured and coloured sugars
- fresh, preserved or crystallised fruits
- seeds and nuts.

Storage conditions and methods appropriate to bakery products may include:

- consideration of temperature, light and air exposure
- use of airtight containers
- display cabinets, including temperature-controlled cabinets to cool or warm
- refrigeration, chilling and freezing.

Unit Sector(s)

Sector

Hospitality

Competency field

Competency field Patisserie

SITHPAT007A Prepare and display petits fours

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to produce, display and service a wide range of petits fours, including petits fours glacés, marzipan-based petits fours and caramelised fruits and nuts served as petits fours, to a high and consistent quality.

Petits fours glacés may include sponge bases assembled with appropriately flavoured fillings cut into a variety of shapes, iced and decorated.

Marzipan-based petits fours may be modelled by hand or shaped with the aid of moulds and may be appropriately flavoured and coloured and sealed with cocoa butter or food lacquer.

Caramelised petits fours include fresh or dried fruits and nuts, filled or unfilled, coated with a pale amber-coloured caramel.

Fresh petits fours include bases prepared from choux or sweet paste with an appropriate filling, topping and decoration.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to patissiers in hospitality enterprises where petits fours are prepared and served, such as patisseries, hotels, restaurants and coffee shops.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

This unit must be assessed after the following prerequisite units:

SITHOHS002A Follow workplace hygiene procedures
SITHPAT001A Prepare and produce pastries

SITHPAT002A Prepare and produce cakes

SITHPAT003A Prepare and produce yeast goods

or

SITHCCC014A Prepare pastries, cakes and yeast goods.

Employability Skills Information

Employability skills

The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare iced petits fours.	<p>1.1 Prepare, cut and assemble sponges and bases according to standard recipes and enterprise requirements and practice.</p> <p>1.2 Prepare <i>fillings</i> with the required flavours and consistency.</p> <p>1.3 Bring fondant icing to the correct temperature and consistency to achieve required coating thickness and surface gloss.</p> <p>1.4 Design and use <i>decorations</i> that enhance customer eye appeal.</p>
2 Prepare fresh petits fours.	<p>2.1 Pipe, bake, fill and <i>decorate</i> a selection of small choux paste shapes.</p> <p>2.2 Prepare and blind bake sweet paste in small moulds or tins in a variety of shapes.</p> <p>2.3 Prepare and use fillings with the required flavours and consistency.</p> <p>2.4 Use appropriate garnishes, glazes and finishes to enhance flavour and eye appeal.</p>
3 Prepare marzipan petits fours.	<p>3.1 Flavour and shape quality marzipan appropriately, producing mini-size fruits.</p> <p>3.2 Coat marzipan fruits to preserve desired eating characteristics and where required, soften with egg whites, pipe into shapes and seal or brown with applied heat, according to enterprise practice.</p>
4 Prepare caramelised petits fours.	<p>4.1 Select and coat fresh fruits or fruit segments with pale amber-coloured caramel.</p> <p>4.2 Sandwich dried fruits or nuts or fill with flavoured marzipan and coat with pale amber-coloured caramel, according to specifications and enterprise standards.</p>

ELEMENT	PERFORMANCE CRITERIA
5 Display petits fours.	5.1 Select and prepare appropriate <i>receptacles</i> for petits fours. 5.2 Display petits fours creatively to enhance customer appeal.
6 Store petits fours.	6.1 Store petits fours at correct temperature and conditions to maintain maximum eating characteristics, appearance and freshness.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- creative skills in decoration and presentation
- safe work practices, particularly in relation to using cutting implements, appliances, heated surfaces, ovens and mixing equipment
- working methods used in production and display of petits fours
- defining and applying corrective steps to ensure quality control
- problem-solving skills to control quality
- literacy skills to read recipes, menus, instructions and orders
- numeracy skills to calculate portions and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- varieties and characteristics of petits fours, both classical and contemporary, including taste, texture, structure, shape and size appropriate for petits fours and in line with industry and enterprise standards
- historical and cultural aspects of petits fours
- underlying principles of making petits fours
- commodity knowledge, including quality indicators of petits fours ingredients
- principles and practices of hygiene, particularly in relation to ingredients and commodities and preparing and decorating petits fours
- culinary terms commonly used in the industry related to petits fours
- portion control and yield
- storage conditions for petits fours and optimising shelf life
- properties of the ingredients used and their interaction and changes during production.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to prepare, present and display a diverse range of petits fours with consistency in size, shape, quality and presentation
- application of food hygiene and safety principles throughout the preparation, decoration and presentation process
- knowledge of the characteristics of petits fours, suitable decorations or garnishes, and the conditions required for optimum quality and presentation
- preparation, decoration and presentation of a range of petits fours within typical workplace conditions.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a commercial pastry kitchen as defined in the Assessment Guidelines
- access to a range of industry-current equipment for making petits fours, including:
 - petit four moulds
 - marble slab and silicon mats
 - chocolate thermometer and saccharometer
 - range of icing and decorating equipment, including variety of decorative combs, fine icing sugar sieves, crimpers of various sizes and designs, matfer type stencils for cigarette paste decoration techniques and fine piping tubes size 3 to 000, chocolate spray gun, fine paint brushes size 3 to 000 and silk screens for cocoa mass screen techniques
 - dipping forks, petit four cutters and petit four dipping racks
- access to a range of presentation equipment, including:
 - cake boxes of various sizes
 - cake stands, including with clear cover and multi-tier, platters and mirrors, and cake boards
 - refrigerated cake display cases or towers
 - use of authentic ingredients.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of practical demonstration by the candidate of preparing, decorating and presenting petits fours
- questions about hygiene procedures, commodities, presentation and decoration techniques, and storage requirements to ensure optimum quality and food safety
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

SITHCCC013A Prepare hot and cold desserts.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

RANGE STATEMENT

Fillings may include appropriately flavoured:

- custard
- cream
- ganache.

Toppings and decorations may include:

- fresh fruits
- glazes
- fondant icing
- chocolate.

Receptacles may include those made from edible and non-edible materials, including:

- chocolate
- tulip paste
- sugar lace
- croquant
- glass
- crystal
- ceramic
- metallic platters and trays.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Patisserie

SITHPAT008A Prepare and model marzipan

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare, handle and model marzipan and to decorate, colour and present modelled items.

Preparing marzipan refers to combining manufactured marzipan paste, pure icing sugar and glucose syrup to a smooth paste of a consistency best suited for its intended purpose.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to patissiers in hospitality enterprises where marzipan is prepared and served, such as patisseries, hotels, restaurants and coffee shops.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units

This unit must be assessed after the following prerequisite unit:
SITHOHS002A Follow workplace hygiene procedures

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare modelling marzipan.	<p>1.1 Select, weigh and combine ingredients to achieve desired composition and characteristics of quality modelling marzipan.</p> <p>1.2 Identify potential problems and take appropriate preventative measures to maintain desired characteristics.</p> <p>1.3 Observe food hygiene principles and requirements.</p>
2 Prepare moulded and modelled shapes.	<p>2.1 Mould or model <i>marzipan</i> in a variety of figures, shapes and flowers.</p> <p>2.2 Apply appropriate colourings, decorations and coating agents to enhance appearance and presentation.</p>

ELEMENT	PERFORMANCE CRITERIA
	2.3 Seal finished shapes to preserve freshness and eating characteristics and appearance.
3 Store marzipan products.	3.1 Store marzipan products at the correct temperature and in conditions to avoid excessive crust formation, drying out and hardening and to maintain maximum eating characteristics and appearance.
4 Use marzipan to cover cakes, gateaux, torten and petits fours.	4.1 Ensure surface of items to be covered is level and smooth. 4.2 Roll out marzipan to specified size and thickness. 4.3 Apply marzipan ensuring a smooth and seamless finish.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- creative skills in decoration and presentation
- handling and storing marzipan and marzipan products and recognising factors affecting their quality
- working methods used in production and display of marzipan, including the use of equipment for preparation and moulding
- defining and applying corrective steps to ensure quality control
- problem-solving skills to control quality
- literacy skills to read recipes, menus, instructions and orders
- numeracy skills to calculate portions and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- characteristics of marzipan, both classical and contemporary, including taste, texture, structure, shape and size appropriate for industry and enterprise standard marzipan products
- hygiene and food safety requirements relating to preparing, decorating, handling and storing marzipan
- historical and cultural aspects of marzipan
- underlying principles of making marzipan
- commodity knowledge, including quality indicators of marzipan ingredients
- culinary terms commonly used in the industry related to marzipan
- portion control and yield
- storage conditions for marzipan and optimising shelf life
- properties of the ingredients used and their interaction and changes during production.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to present and display a diverse range of modelled and moulded marzipan products with consistency in size, shape, quality and presentation
- application of food hygiene and safety principles throughout the preparation, decoration and presentation process
- knowledge of the characteristics of marzipan and suitable decorations or garnishes and the conditions required for optimum quality and presentation
- preparation, decoration and presentation of a range of marzipan shapes within typical workplace conditions and timeframes.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a commercial pastry kitchen as defined in the Assessment Guidelines
- access to industry-current equipment for preparation and modelling of marzipan, including:
 - marzipan modelling tools and moulds, such as leaf, flower petal cutters, novelty moulds, crimpers of various sizes and designs, textured rolling pins and boards, piping tubes, dipping forks, fine piping tubes size 3 to 000, and fine icing sugar sieves
 - marzipan refiner or high powered food processor, such as robot coupe
 - chocolate thermometer and saccharometer
 - marble slab and silicon mats
 - chocolate spray gun kit, or brown cocoa butter aerosol and airbrush
- access to presentation equipment, including:
 - cake stands, including multi-tier and clear cover, platters and mirrors, and cake boards
 - doilies in a range of shapes and sizes
 - presentation containers or boxes of various sizes
 - use of authentic ingredients.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of practical demonstration by the candidate of preparing, decorating and presenting modelled and moulded marzipan
- questions about hygiene procedures, commodities, presentation and decoration techniques and storage requirements to ensure optimum quality and food safety
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHCCC013A Prepare hot and cold desserts
- SITHPAT001A Prepare and produce pastries
- SITHPAT002A Prepare and produce cakes.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

RANGE STATEMENT

Handling of marzipan must include:

- modelling into shapes, figures or flowers
- colouring, decorating, glazing and sealing
- covering cakes, gateaux, torten and petits fours with marzipan.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Patisserie

SITHPAT010A Prepare and display sugar work

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to prepare sugar for sugar work and to plan and produce sugar-based display pieces.

The preparation of sugar includes boiling to various predetermined temperature stages suitable for pulling, casting or blowing.

Pulling refers to manipulating boiled sugar after initial cooling, to incorporate air and to achieve elasticity and sheen.

Casting refers to pouring boiled sugar into prepared framework or moulds or into free-flowing shapes. The preparation of sugar casts also includes casting of individual segments, assembling, decorating and preparing for display and storage.

Blowing refers to creating shapes by blowing air through a blowpipe into boiled sugar of the correct temperature.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to patissiers in hospitality enterprises where sugar-based display items are prepared for display, such as patisseries, pastry shops, hotels, restaurants and catering enterprises.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units This unit must be assessed after the following prerequisite unit:
SITHOHS002A Follow workplace hygiene procedures

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Boil sugar.	1.1 Identify and assemble required ingredients according to standard recipes and enterprise requirements. 1.2 Combine sugar and water and boil to required temperature, using <i>specialised equipment</i> for boiling

ELEMENT	PERFORMANCE CRITERIA
	sugar correctly and safely.
	1.3 Follow preparation methods specified in standard recipes.
	1.4 Use colouring and flavourings appropriately, according to sugar products required.
	1.5 Handle boiled sugar solution safely according to safety requirements, standard recipes and enterprise practice.
2 Pull boiled sugar.	2.1 Manipulate boiled sugar to avoid crust forming.
	2.2 Turn out and pull sugar, using a suitable work surface and according to standard industry practice and safety requirements.
3 Store pulled sugar.	3.1 Portion pulled sugar according to intended use.
	3.2 Use correct packaging methods and vacuum-seal pulled sugar pieces.
	3.3 Use appropriate storage procedures to ensure extended shelf life.
4 Plan decorative sugar work.	4.1 Plan sugar work appropriate for the occasion, allowing adequate time for, or working within time available for, preparation.
	4.2 Produce sketches or outlines of required forms and shapes and identify colours, decorations and supports.
	4.3 Prepare formwork or moulds and working surface appropriately.
	4.4 Calculate required quantities of differently coloured sugar.
	4.5 Select and use appropriate equipment and materials.
5 Prepare sugar work.	5.1 Boil sugar, adding required colouring and arrest the temperature at the correct point for casting or blowing as required.
	5.2 Cast boiled sugar, shaping into desired forms or moulds, using appropriate techniques and skills and achieving correct and even thickness.
	5.3 Remove formwork from sugar at the correct stage of

ELEMENT	PERFORMANCE CRITERIA
	hardening and move sugar items to cool areas, where required, to accelerate cooling.
	5.4 Create sugar pieces using appropriate blowing techniques and suitable materials and equipment.
	5.5 Assemble sugar centrepieces to achieve balance, proportion and optimum strength.
	5.6 Decorate sugar work creatively, ensuring appropriateness for the occasion and creating customer appeal.
6 Display sugar work.	6.1 Display <i>sugar work</i> attractively to enhance food displays.
	6.2 Use sugar work to complement, harmonise and balance the displayed food.
7 Store sugar work.	7.1 Store sugar work according to establishment procedures, ensuring it is protected from humidity, dust and heat.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- handling and storing sugar work and recognising factors affecting quality and optimising shelf life
- safe boiling and handling of sugar and underlying principles of preparing sugar
- basic first aid for treatment of burns in case of accidents
- ability to pull, cast and blow sugar
- working methods used in production and display of sugar work, including the use of equipment
- creative skills in decoration and presentation
- defining and applying corrective steps to ensure quality control
- literacy skills to read recipes, menus, instructions and orders
- numeracy skills to calculate portions and weigh and measure quantities of ingredients.

The following knowledge must be assessed as part of this unit:

- safety requirements relating to possible dangers when handling boiled sugar at high temperatures
- historical and cultural aspects of sugar work
- commodity knowledge, including quality indicators of ingredients used in sugar work
- culinary terms commonly used in the industry related to sugar work
- portion control and yield
- causes of premature crystallisation of boiled sugar and methods to avoid it
- properties of the ingredients used and their interaction and changes during production
- influence of cleanliness of materials used on the boiling process and quality outcome
- hygiene and food safety requirements relating to sugar work.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency

Evidence of the following is essential:

- ability to produce a wide range of sugar work using pulling, casting and blowing
- application of safety and food hygiene principles throughout preparation, decoration, presentation and storage processes
- ability to produce sugar work of optimum quality and creativity
- preparation, decoration and presentation of a range of sugar work within typical workplace conditions.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of skills within a commercial kitchen or pastry kitchen, as defined in the Assessment Guidelines
- access to industry-current equipment for producing sugar work, including:
 - air conditioned room
 - heating lamp with red or white light and hair drier with cold air setting or small cooling fan
 - blow torch
 - silicon paper and mats
 - heat resistant plasticine
 - saccharometer
 - marble slab
 - hand pump for blowing sugar
 - modelling tools, such as marzipan tools
 - airtight sugar display cases
 - assorted rings, moulds, metal bars and similar equipment usable for poured and moulded sugar work
 - cake wheels
 - scissors
 - suitable presentation bases, such as mirrors, tiles and platters
 - basket weave boards (round and oval shaped) complete with metal rods
 - disposable gloves for pulling and shaping sugar
- use of authentic ingredients.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of practical demonstration by the candidate of preparing, decorating and presenting sugar work
- questions about the preparation of and characteristics of quality sugar work, safe handling and hygiene procedures, commodities, presentation and decoration techniques, and storage requirements to ensure optimum quality and food safety
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHCCC013A Prepare hot and cold desserts
- SITHPAT001A Prepare and produce pastries
- SITHPAT002A Prepare and produce cakes.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

RANGE STATEMENT

Specialised equipment for sugar work may include:

- sugar boilers
- sugar thermometers
- rubber mats
- metal strapping
- moulds
- patterns
- blowpipes
- foil
- plasticine
- display stands and bases
- spatulas
- shears.

Safe handling of boiled sugar solution may include:

- using protective gloves and mitts where appropriate
- covering exposed skin
- ensuring all equipment has secure handles
- avoiding drips and dribbles
- using insulated pot rests.

Sugar work may be used for:

- centrepieces
- desserts
- decorations for cakes and desserts
- sweets.

Unit Sector(s)

Sector Hospitality

Competency field

Competency field Patisserie

SITTIND001B Develop and update tourism industry knowledge

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to develop and update current and emerging information on the tourism industry, including industry structure, current technology and key environmental, community, legal and ethical issues that must be considered and applied by tourism industry personnel in their day-to-day work. The unit focuses on the ability to source and comprehend general tourism industry information and covers the initial and ongoing development of a person's required knowledge base. This information underpins effective performance in the tourism industry. More specialised and advanced tourism research and management knowledge is found in other units.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit describes a key function for all people working in the tourism industry who require an essential and broad knowledge of the tourism industry to support all work activities. This unit applies to individuals working within any tourism industry sector, in any location and for any tourism organisation type.

It is relevant to those individuals working in any tourism operational and management role.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Source and apply general information on the structure and operation of the tourism industry.	<p>1.1 Identify <i>sources of information</i> to understand the structure and operation of <i>the tourism industry</i>.</p> <p>1.2 Access and comprehend specific <i>information</i> of relevance to the tourism industry.</p> <p>1.3 Access and use knowledge of the tourism industry to</p>

ELEMENT	PERFORMANCE CRITERIA
	<i>enhance the quality of work performance.</i>
2 Source and apply information on legal and ethical issues that impact on the tourism industry.	2.1 Obtain information on legal issues to assist effective work performance. 2.2 Conduct day-to-day tourism organisation activities according to legal obligations and ethical industry practices .
3 Source and apply information on tourism industry technology.	3.1 Source and access information on current and emerging technologies that impact on the tourism organisation process . 3.2 Identify the potential effects of different technologies on the tourism organisation process. 3.3 Apply knowledge of current and emerging technology in day-to-day work activities.
4 Update personal and organisational knowledge of the tourism industry.	4.1 Identify and use a range of opportunities to update knowledge of the tourism industry. 4.2 Monitor current issues of concern to the industry. 4.3 Share updated information with colleagues, according to organisational procedures, and incorporate into day-to-day work activities.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- research skills to identify, interpret and sort relevant information
- communication skills including active listening and questioning to obtain information and to provide a verbal summary of information
- literacy skills to read and comprehend the content of plain English information documents about legal issues, industry accreditation schemes and codes of conduct
- writing skills to note take, summarise and record information in basic documents such as information sheets, portfolios and files.

The following knowledge must be assessed as part of this unit:

- sources of general information on the tourism industry
- structure of the tourism industry; the functions, key characteristics and business interrelationships of the different sectors of the tourism industry including the distribution roles of the following sectors:
 - accommodation
 - attractions and theme parks
 - tour operators
 - inbound and outbound tour wholesalers
 - retail travel agents
- the general nature of allied and crossover industries including hospitality, meetings, incentives, conferences and events
- the existence and primary functions of the major cross-industry and sector-specific industry associations especially those with which the business has a relationship
- the existence and primary functions of trade unions in the industry
- the existence and primary functions of local, regional, state and national tourism information service and marketing organisations
- the existence and primary functions of tourism research bodies
- the existence and key characteristics of occupational licensing, codes of conduct or ethics and industry accreditation schemes in the tourism industry, the impacts of compliance and non-compliance and the roles and responsibilities of individual staff members in these quality assurance processes
- the existence and basic aspects of state, territory and local council laws that impact on tourism operations and actions that must be adhered to by tourism businesses, in particular laws that cover:
 - equal employment opportunity (EEO)

REQUIRED SKILLS AND KNOWLEDGE

- anti-discrimination
- occupational health and safety and workers' compensation
- workplace relations
- child sex tourism
- the delivery of tourism products in Queensland under the Queensland Tourism Services Act (2003)
- legal liability and duty of care of customers
- environmental protection (This would include requirements that must be met by tourism operators when delivering services.)
- local community protection (This would include land ownership, management and access requirements that must be met by tourism operators when delivering services.)
- consumer protection (This would include refund requirements that must be met by tourism businesses, terms and conditions of quotations and cancellation fees.)
- responsible service of alcohol
- food safety
- current and emerging technology used in the tourism industry, including e-business.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- ability to source initial and updated tourism industry information and apply this to day-to-day activities to maximise effective performance in specific tourism sector contexts
- general knowledge of the tourism industry, including main roles, functions and interrelationships of different sectors, with a more detailed knowledge of issues that relate to a specific sector or workplace
- general knowledge of the key environmental, community, legal and ethical issues for the tourism industry.

EVIDENCE GUIDE

Context of and specific resources for assessment

Assessment must ensure:

- access to a fully equipped office environment using appropriate computers, printers, communication technology, information programs and publications to facilitate the processes involved in sourcing industry information
- access to information sources in order to conduct research and collect sufficient information
- access to industry association membership information, codes of conduct and accreditation information
- access to plain English documents that describe key tourism and general workplace legislation.

Methods of assessment

A range of assessment methods should be used to assess the practical skills and knowledge required to develop and update tourism industry knowledge. The following examples are appropriate for this unit:

- projects to research differing aspects of the tourism industry and delivery of the sourced information in a brief written or oral presentation
- holistic tourism planning project activities that allow the candidate to demonstrate the application of knowledge to specific tourism industry contexts and situations
- case studies and problem-solving exercises to assess application of knowledge to different situations and contexts
- written and oral questioning or interview to test knowledge of different sectors of the tourism industry and their interrelationships, the key content of legislation and industry codes of conduct
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended for example:

- SITXADM002A Source and present information
- SITXCOM004A Communicate on the telephone.

EVIDENCE GUIDE

Guidance information for assessment

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Sources of information on and *opportunities to update knowledge* may include:

- formal and informal research
- media
- reference books
- legislation or plain English publications describing the law and responsibilities to comply
- libraries
- unions
- industry associations and organisations
- industry journals
- computer data, including internet
- personal observations and experience
- informal discussions and networking with colleagues
- industry seminars
- training courses
- familiarisation tours of tourism destinations and facilities
- participation or membership in professional industry associations
- participation in industry accreditation schemes
- use of industry codes of conduct or ethics.

RANGE STATEMENT

The *tourism industry* involves a range of sectors and businesses including:

- accommodation
- attractions
- transport
- retail travel
- tour wholesaling
 - inbound tour operators
 - outbound wholesalers
- tour operations
- meetings, incentives, conventions and events
- tour guiding
- information services and promotion:
 - visitor information centres, regional, state and national tourism offices.
- coordination
 - industry associations, councils, taskforces, research bodies.

RANGE STATEMENT

Information of relevance to the ***the tourism industry must include:***

- different tourism markets and their relevance to industry sectors
- relationships between tourism and other industries, including:
 - events
 - hospitality
 - entertainment
 - arts
 - sports
 - agriculture
 - conservation
 - science and research
 - retail
- different sectors and businesses within the industry, their interrelationships and the services available in each sector
- major tourism industry bodies and associations
- economic and social significance of the tourism industry, which may relate to:
 - employment
 - effect on local amenities and facilities
 - population change due to tourism development
 - community role in tourism
- role of and impacts on local communities
- environmental issues for tourism, including:
 - protection of natural and cultural integrity
 - minimal impact operations
 - environmental sustainability
 - waste management
 - energy-efficient operations
 - land ownership
 - land access and usage
- industrial relations
- specific features of the local and regional industry
- career opportunities within the industry
- roles and responsibilities of individual staff members in a successful tourism business, including ethical practices and quality assurance.

RANGE STATEMENT

Enhancing the quality of work performance may involve:

- making contacts with networks for obtaining key information to develop, deliver and improve improve tourism operations
- suggesting new and improved ways of doing things
- performing work duties within legal, ethical and social guidelines to ensure smooth tourism operations
- improving skills, knowledge and productivity to improve tourism operations by accessing and attending industry professional development courses or activities.

Legal issues may include:

- consumer protection
- EEO
- anti-discrimination
- workplace relations
- public liability and duty of care
- licensing
- land ownership, management and access
- environmental management
- risk management
- OHS
- child sex tourism
- Queensland Tourism Services Act (2003).

RANGE STATEMENT

Ethical industry practices may relate to:

- maintaining the rights and lifestyle conditions of local community residents
- agreed compliance with codes of conduct, practice or ethics
- truth and honesty regarding all information given to customers
- product recommendations
- declaration of commissions, fees and other charges
- subcontracting and provision of services as promoted
- pricing
- procedures for payment of commissions
- bookings at venues
- overbooking
- confidentiality of customer information
- tipping
- familiarisations
- gifts and services free of charge
- preferred product arrangements.

Technologies that impact on the tourism organisation process may relate to:

- current and emerging industry technology, including e-business
- internal and industry wide reservation, operations and financial and tracking systems
- project management systems
- computer-aided design (CAD) systems.

Issues of concern to the industry may relate to:

- maintaining organisational and industry profitability by productivity and pricing flexibility
- industry initiatives
- government initiatives
- emerging markets
- environmental and social issues
- labour issues
- industry expansion or retraction.

Unit Sector(s)

Sector Tourism

Competency field

Competency field Working in Industry - Tourism

SITXCCS001B Provide visitor information

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to provide visitors with general information about a local area.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit

This unit applies to frontline service personnel working in a range of tourism, hospitality, entertainment and cultural sectors who routinely respond to requests for general visitor information.

The unit reflects a context where information provision is fairly general in nature or where it is not the primary job role. For example, this unit might apply to individuals working in restaurants, hotels, wineries, attractions and entertainment venues, or to a volunteer in a visitor information centre who may not be expected to respond to requests for more complex or detailed Australian destination information. It might also include information on the venue in which the person works, e.g. products and services within a large theme park, attraction, cultural venue, winery or resort complex. The unit SITTTSL004A Source and provide Australian destination information and advice, is more relevant to people working in jobs where the provision of destination information is a primary focus, e.g. travel consultants and visitor information officers.

A person undertaking this role works under supervision and guidance from others.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Access and update visitor information.	1.1 Identify and access appropriate <i>sources of visitor information.</i> 1.2 Incorporate information into day-to-day working activities to support quality of service and standards within the organisation. 1.3 Share information with colleagues to support the

ELEMENT	PERFORMANCE CRITERIA
	efficiency and quality of service.
	1.4 Identify and use opportunities to update and maintain local knowledge.
2 Provide information.	2.1 Proactively identify information and assistance needs of different customers, including those with special needs.
	2.2 Provide accurate and unbiased information in a clear, concise, courteous and <i>culturally appropriate manner</i> .
	2.3 Where appropriate, assist or instruct visitors in the use of equipment and facilities or refer to relevant colleagues.
	2.4 Consider health and safety requirements when providing information and assistance.
	2.5 Promote <i>internal products and services</i> using appropriate customer service skills.
3 Seek feedback on services.	3.1 Proactively seek feedback on services from visitors.
	3.2 Observe visitor behaviour to inform future service developments and correctly follow procedures for any formal customer evaluation.
	3.3 Provide information on visitor feedback to relevant colleagues.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- communication and interpersonal skills to interact in a friendly and courteous way with customers
- basic research skills to source information on a predictable range of customer requests
- literacy skills to understand, interpret and orally communicate local information and promotional material.

The following knowledge must be assessed as part of this unit:

- sources of information for organisation and local area knowledge
- general knowledge of organisation, local attractions and events, transport options and general visitor facilities, including shopping, currency exchanges, post offices, banks and emergency services (the focus of this knowledge will vary according to organisational needs)
- understanding of the need to provide advice in an unbiased and ethical manner
- available sources of advice and referral for more complex requests
- safety and emergency procedures for visitors, colleagues and self
- sources of customers in the relevant industry context.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- ability to source accurate and current information on the local area
- general knowledge of the local area sufficient to answer commonly asked customer questions relevant to job role
- demonstration of skills on multiple occasions or in response to multiple requests reflecting breadth of knowledge and ability to respond to different situations.

Context of and specific resources for assessment

Assessment must ensure:

- interaction with others in the provision of information to demonstrate appropriate interpersonal skills
- use of current local area information.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- project to research visitor information for the organisation or local area
- direct observation of the candidate using local knowledge to answer customer questions
- oral or written questions to assess knowledge of local information and information sources
- role-play to provide information for variety of different customers
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the performance criteria is detailed below.

Sources of visitor information may include:

- brochures
- timetables
- local visitor guides
- library and local council
- local people including local identities with specialised knowledge
- winemakers and other wine experts
- organisation information
- room directories
- maps
- internet.

Visitor information must include:

- organisation-specific information
- local transport options
- local attractions and events
- general visitor facilities, including shopping locations, currency exchanges, post offices, banks and emergency services
- specific shopping details, including local markets
- accommodation options
- restaurants, cafes and other dining venues
- other facilities and services such as hairdressers, dentists and travel agencies
- theatres and entertainment venues
- sporting facilities
- tours, local outings and trips
- travelling routes
- weather conditions.

RANGE STATEMENT

Opportunities to update and maintain local knowledge may include:

- talking and listening to colleagues and customers
- participating in local familiarisation tours
- visiting the local information centre
- personal observation or exploration
- watching television, videos and films
- listening to radio
- reading local newspapers, staff noticeboards, leaflets, brochures and internal newsletters
- attending team meetings.

Culturally appropriate manner may involve:

- using gestures
- using simple words in English or other person's language
- providing written material
- avoiding eye contact
- providing information in different formats to suit the individual.

Internal products and services may include:

- restaurant products
- accommodation
- products made by the organisation (e.g. wine, food)
- tours
- general retail products (e.g. souvenirs).

Unit Sector(s)

Sector

Cross Sector

Competency field

Competency field

Client and Customer Service

SITXCOM001A Work with colleagues and customers

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, interpersonal, communication and customer service skills and knowledge required to work in the service industries. This is a core unit underpinning all other units involving interaction with colleagues and customers.

Key required skills and knowledge for this role include meeting personal presentation standards, establishing rapport with customers, determining and addressing customer needs and expectations, dealing with complaints, working in teams and using appropriate communication techniques and mediums.

Application of the Unit

Application of the unit

This unit applies across the service industries to all job roles and levels and in particular to the full range of tourism and hospitality industry sectors and environments. It applies to those who deal directly with customers as well as back-of-house staff or those working in reception areas; in an office; and on tour or on site, such as food and beverage attendants, housekeeping attendants, porters and concierge staff, guides, front office personnel, tour coordinators, event coordinators and retail travel consultants.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Communicate with customers.	<p>1.1 Conduct <i>communication</i> with <i>customers and colleagues</i> in a polite, professional and friendly manner.</p> <p>1.2 Use language and tone appropriate to a given situation in both written and spoken communication.</p> <p>1.3 Source relevant information about products and services and provide information clearly to customers.</p> <p>1.4 Use appropriate <i>non-verbal communication</i> in all situations.</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>1.5 Observe and take into consideration non-verbal communication of colleagues and customers.</p> <p>1.6 Show sensitivity to <i>cultural and social differences</i>.</p> <p>1.7 Use active listening and questioning to facilitate effective two-way communication.</p> <p>1.8 Select an appropriate <i>medium of communication</i> for the particular audience, purpose and situation, taking into consideration the characteristics of each medium and the relevant <i>factors</i> involved.</p> <p>1.9 Use communication medium correctly and according to standard <i>protocols and organisation procedures</i>.</p>
2 Maintain personal presentation standards.	2.1 Practise high standards of <i>personal presentation</i> according to organisation requirements, work location, impacts on different types of customers and specific requirements for particular work functions.
3 Provide service to colleagues and customers.	<p>3.1 Identify colleague and customer needs and expectations correctly, including <i>customers with special needs</i>, and provide appropriate products, services or information.</p> <p>3.2 Meet all reasonable colleague and customer needs and requests within acceptable organisation timeframes.</p> <p>3.3 Identify and take all opportunities to enhance service quality.</p>
4 Respond to conflicts and customer complaints.	<p>4.1 Identify potential and existing conflicts and seek solutions in conjunction with parties involved.</p> <p>4.2 Recognise customer dissatisfaction promptly and take action to resolve the situation according to individual level of responsibility and organisation procedures.</p> <p>4.3 Respond to <i>customer complaints</i> positively, sensitively and politely and in consultation with the customer.</p> <p>4.4 Refer escalated complaints to the appropriate person according to individual level of responsibility and organisation policy and procedures.</p> <p>4.5 Maintain a positive and cooperative manner at all times.</p>

ELEMENT	PERFORMANCE CRITERIA
5 Work in a team.	<ul style="list-style-type: none">5.1 Demonstrate trust, support and respect towards team members in day-to-day work activities.5.2 Recognise and accommodate cultural differences within the team.5.3 Identify work-team goals jointly with colleagues and relevant others.5.4 Identify, prioritise and complete individual tasks within designated timeframes.5.5 Seek assistance from other team members, supervisors and managers when required.5.6 Offer assistance to colleagues when required to ensure designated work goals are met.5.7 Acknowledge and respond to feedback and information from other team members.5.8 Negotiate changes to individual responsibilities to meet reviewed work goals.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- communication skills in relation to listening, questioning and non-verbal communication
- basic written communication skills, including writing clear and concise messages, notes, emails and faxes
- basic literacy skills to read messages, notes, emails and faxes
- basic telephone skills
- identifying and responding to different cultural, language and special needs and expectations
- meeting personal presentation standards according to organisation requirements
- identifying and dealing with conflict situations, complaints and misunderstandings within scope of responsibility
- customer service skills, including meeting customer requirements, handling customer complaints and requests, developing rapport and promoting suitable products and services.

The following knowledge must be assessed as part of this unit:

- protocol and service rituals of the industry, sector and organisation
- ethics of professional hospitality and tourism behaviour
- characteristics, uses and conventions of different types of communication mediums
- teamwork principles.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- ability to communicate effectively with customers and colleagues (including those with special needs) within a range of situations required for the relevant job role
- ability to work effectively in a team
- ability to respond effectively to a range of customer service situations
- understanding of communication and customer service and its importance in a tourism or hospitality context.

Context of and specific resources for assessment

Assessment must ensure:

- demonstration of communication skills through interaction with others
- project or work activities that allow the candidate to respond to multiple and varying customer service and communication situations relevant to the job role; for those undertaking generic pre-employment training, project activities must cover a range of industry contexts to allow for a broad range of vocational outcomes.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate carrying out work tasks involving dealing with customers and colleagues
- role-plays about communication situations and dealing with complaints and misunderstandings
- review of simple messages written by the candidate for various situations
- questions about effective communication and personal presentation
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITXCOM002A Work in a socially diverse environment
- SITXCOM003A Deal with conflict situations.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. **Bold italicised** wording in the

RANGE STATEMENT

performance criteria is detailed below.

Communication may be:

- verbal
- written format, such as electronic (e.g. email) or hard copy (e.g. letter)
- by telephone
- in languages other than English, including Australian Indigenous languages
- visual, such as sign language
- via an interpreter.

Customers and colleagues may be:

- workmates and colleagues
- external customers and clients
- members of other tourism and hospitality industry sectors
- individuals or groups, such as consultants and committees
- government or other organisations
- visitors
- media.

Non-verbal communication may include:

- body language
- dress and accessories
- gestures and mannerisms
- voice tonality and volume
- use of space
- culturally specific communication customs and practices.

Cultural and social differences may include:

- modes of greeting, farewelling and conversation
- body language, including use of body gestures
- formality of language.

RANGE STATEMENT

- Medium of communication*** may include:
- fax
 - email or other electronic communication
 - simple written messages, such as restaurant bookings or phone messages
 - face-to-face
 - telephone
 - two-way communication systems
 - standard forms and pro formas
 - assistive technology, e.g. telephone typewriter (TTY)
 - through interpreters.

- Factors*** affecting the selection of appropriate medium may include:
- technical and operational features
 - access of the sender and receiver to necessary equipment
 - technical skills required to use the medium
 - required format
 - degree of formality required
 - urgency and timeframes.

- Protocols and organisation procedures*** may include:
- modes of greeting and farewelling
 - addressing the person by name
 - timeframe for required response
 - style manual requirements
 - standard letters and pro formas.

- Personal presentation*** may include:
- dress
 - hair and grooming
 - hands and nails
 - jewellery.

- Customers with special needs*** may include:
- those with a disability
 - those with special cultural or language needs
 - unaccompanied children
 - parents with young children
 - pregnant women
 - aged people.

RANGE STATEMENT

- Customer complaints* may relate to:
- problems with the service, such as delays or wrong orders
 - problems with the product
 - communication barriers or misunderstandings.

Unit Sector(s)

Sector Cross-Sector

Competency field

Competency field Communication and Teamwork

SITXFIN001A Process financial transactions

Modification History

Not applicable.

Unit Descriptor

Unit descriptor This unit describes the performance outcomes, skills and knowledge required to process simple financial transactions in a range of workplace contexts. Cash and other types of transactions are included in the unit.

Application of the Unit

Application of the unit This unit applies to individuals working in a frontline service role whose job role includes accepting and processing payments for services and reconciling takings at the end of a given service period.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Process receipts and payments.	<p>1.1 Receive and check cash float accurately where appropriate using correct documentation.</p> <p>1.2 Check payments received from the customer and give correct change where appropriate.</p> <p>1.3 Prepare and issue accurate receipts including all relevant tax details.</p> <p>1.4 Process and record <i>transactions</i> according to organisation and financial institution procedures.</p> <p>1.5 When cash payments are required, check documents and issue cash according to organisation procedures.</p> <p>1.6 Conduct transactions using appropriate software applications.</p> <p>1.7 Conduct transactions to meet organisation speed and customer service standards.</p>

ELEMENT	PERFORMANCE CRITERIA
2 Reconcile takings.	<ul style="list-style-type: none">2.1 Perform <i>balancing procedures</i> at the designated times according to organisation policy and in consultation with colleagues.2.2 Where appropriate, separate any cash floats from takings prior to balancing procedure and secure according to organisation procedures.2.3 Determine register or terminal reading or printout where appropriate.2.4 Remove payments received and transport according to organisation <i>security procedures</i>.2.5 Count and calculate payments accurately.2.6 Determine balance between register or terminal reading and sum of payments accurately.2.7 Investigate or report discrepancies in the reconciliation within scope of individual responsibility.2.8 Record takings according to organisation procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- problem-solving skills to identify and investigate a range of routine reconciliation discrepancies
- literacy skills to read and interpret documentation, such as credit card details, receipts or cash float documentation
- numeracy skills to tender correct change and undertake simple financial reconciliations.

The following knowledge must be assessed as part of this unit:

- procedures for processing different types of transactions in the relevant industry context
- underpinning principles of the reconciliation and balancing process
- relevant software, such as point of sale
- role and importance of the reconciliation and balancing process in a broader financial management context
- security procedures for cash and other financial documentation
- how GST affects financial transactions in a given industry context.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- ability to conduct accurate and secure financial transactions
- ability to balance transactions within acceptable organisation timeframes
- knowledge of security principles and procedures in relation to tender and other financial documentation
- ability to work within time constraints typical of the industry environment, such as several people waiting to pay their bill
- processing of multiple and varied transactions to address different situations and contexts.

Context of and specific resources for assessment

Assessment must ensure:

- use of legal tender and industry-current processing equipment, such as credit card machines and tills
- completion of transactions with a number of customers with varying requirements.

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate processing financial transactions and balancing takings
- review of reconciliation documentation prepared by the candidate
- written or oral questions to assess knowledge of procedures for cash or non-cash transactions
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

EVIDENCE GUIDE

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

Transactions may include:

- cash
- credit cards
- cheques
- EFTPOS
- deposits
- advance payments
- vouchers
- company charges
- refunds
- travellers cheques
- foreign currency.

Balancing procedures may be:

- manual
- electronic.

RANGE STATEMENT

Security procedures may relate to:

- process for taking cash from customers
- managing floats, such as when to reduce cash held
- maintaining low levels of cash in tills
- rules for when and how cash should be counted
- handling customer claims of short change
- transporting takings to the bank
- procedures in the event of a hold-up.

Unit Sector(s)

Sector Cross-Sector

Competency field

Competency field Finance

SITXOHS002A Follow workplace hygiene procedures

Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit describes the performance outcomes, skills and knowledge required to apply good hygiene practices within a range of service industry operations. It requires the ability to follow predetermined procedures, identify and control simple hazards and take particular hygiene measures to ensure the non-contamination of food and other items that might put customers, colleagues and self at a health risk.

This unit is one of three hierarchical units describing varying levels of participation in food safety processes:

- SITXOHS002A Follow workplace hygiene procedures
- SITXFSA001A Implement food safety procedures
- SITXFSA002A Develop and implement a food safety program.

Food safety is nationally legislated by the Food Standards Australia New Zealand Act 1991 which provides for the operation of a statutory authority known as Food Standards Australia New Zealand. The Australia New Zealand Food Standards Code (the Code) developed by this authority contains an individual standard for food safety practices. A large component of that standard deals with the health and hygiene of food handlers. This unit of competency complies with the legislative requirements for food safety and hygiene practices as outlined in the Code.

The legislative requirement for a business to comply with the national standard for food safety practices, along with training and certification requirements, differs between state and territory governments.

In some cases food handlers, especially designated food safety supervisors, may be required to formally achieve competence in hygiene practices through a registered training organisation that may use this unit as the basis for their training.

Application of the Unit

Application of the unit Personal hygiene practices underpin a range of service industry activities. They are particularly important within a food safety regime, but can also apply to housekeeping activities and anywhere where poor hygiene could provide a contamination risk. Poor hygiene practices can risk the health of customers, colleagues and self.

For the purposes of food safety, this unit only has application to hospitality, commercial catering and retail venues where food is stored, prepared, displayed and served. It will apply to any venue that operates a permanent or temporary kitchen or smaller food preparation area, such as restaurants, cafes, clubs, hotels, attractions, events and conference venues, fast food restaurants, retail food outlets such as sandwich shops and food court outlets. It would apply to tour operators involved in the preparation and service of food at temporary sites.

Other industries will need to access industry-specific food safety units of competency.

This unit applies to frontline operational personnel who work under close supervision and guidance from others during the normal course of their daily activities. They would be required to apply little discretion and judgement because they operate within predefined organisational hygiene procedures. Personal hygiene practices apply to all personnel operating at all levels within the service industries, such as kitchen hands, cooks, chefs, catering staff, food and beverage attendants, housekeeping and, laundry staff, sandwich hands, cafe and fast food outlet cooking crew and sales people and owner-operators of small business catering operations or retail food outlets.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit is packaged will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Follow hygiene procedures and identify hygiene hazards.	<p>1.1 Access and follow <i>hygiene procedures and policies</i> correctly and consistently according to organisation and legal requirements to ensure health and safety of customers and colleagues.</p> <p>1.2 Identify and report <i>poor organisation practices</i> that are inconsistent with hygiene procedures.</p> <p>1.3 Identify <i>hygiene hazards</i> that may affect the health and safety of customers, colleagues and self.</p> <p>1.4 Take action to remove or minimise the hazards within</p>

ELEMENT	PERFORMANCE CRITERIA
	scope of individual responsibility and according to organisation and legal requirements.
	1.5 Promptly report hygiene hazards to appropriate person for follow up where control of hazard is beyond the scope of individual responsibility.
2 Report any personal health issues.	2.1 Report any personal <i>health issues</i> that are likely to cause a hygiene risk.
	2.2 Report incidents of food contamination that have resulted from the personal health issue.
	2.3 Do not participate in food handling activities where there is a risk of food contamination as a result of the health issue.
3 Prevent food and <i>other item</i> contamination.	3.1 Maintain clean clothes, wear required personal protective clothing and only use organisation-approved bandages and dressings to prevent contamination to food.
	3.2 Ensure that no clothing or <i>other items worn</i> contaminate food.
	3.3 Prevent unnecessary direct contact with ready to eat food.
	3.4 Do not allow food to become contaminated with any body fluids or tobacco product from sneezing, coughing, blowing nose, spitting, smoking or eating over food or food preparation surfaces.
	3.5 Maintain the use of clean materials and clothes and safe and hygienic practices to ensure that no <i>cross-contamination of other items in the workplace occurs</i> .
4 Prevent cross-contamination by washing hands.	4.1 <i>Wash hands at appropriate times</i> and follow hand washing procedures correctly and consistently according to organisation and legal requirements.
	4.2 Wash hands using <i>appropriate facilities</i> .

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

The following skills must be assessed as part of this unit:

- communication skills to verbally report hygiene hazards and poor organisation practice
- literacy skills to read and interpret relevant organisation policies, procedures and diagrams that identify good hygiene practices.

The following knowledge must be assessed as part of this unit:

- very basic understanding of federal, and state or territory food safety legislative compliance requirements, contents of national codes and standards that underpin regulatory requirements, and local government food safety regulations
- working knowledge of organisation personal hygiene policies and procedures
- ramifications of failure to observe hygiene policies and procedures
- broad understanding of the general hazards in handling food, linen, laundry and garbage, including major causes of contamination and cross-infection
- sources and effects of microbiological contamination of food and other items that would require protection in the industry sector and business
- basic understanding of the choice and application of cleaning and sanitising equipment and materials.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- ability to access and interpret hygiene procedures and consistently apply these during day-to-day activities
- understanding of the importance of following hygiene procedures and of the potential implications of disregarding those procedures
- project or work activities that show the candidate's ability to apply good hygiene practices on multiple occasions in a range of different operational circumstances to ensure consistency in the application of hygiene procedures.

Context of and specific resources for assessment

Assessment must ensure:

- access to current regulatory documents distributed by key federal, state or territory, and local government agencies such as plain English legislative publications, codes and standards outlining food safety requirements
- access to hygiene policies and procedures
- project or work activities that show candidates' ability to apply good hygiene practices within the context of the particular industry sector in which they are working or seeking work; for those undertaking generic pre-employment training, assessment must cover a range of industry contexts to allow for a broad range of vocational outcomes
- use of real products, materials and equipment.

EVIDENCE GUIDE

Methods of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct observation of the candidate carrying out work tasks that involve following hygiene procedures
- oral and written questions about hygiene principles and practices, policies and procedures
- oral or written questions to assess knowledge of food hygiene legislative requirements
- case studies to assess ability to react to a range of incidents where hygiene hazards exist
- review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- SITHACS005A Prepare rooms for guests
- SITHACS007A Launder linen and guest clothes
- SITXFSA001A Implement food safety procedures.

Assessing employability skills

Employability skills are integral to effective performance in the workplace and are broadly consistent across industry sectors. How these skills are applied varies between occupations and qualifications due to the different work functions and contexts.

Employability skills embedded in this unit should be assessed holistically with other relevant units that make up the skill set or qualification and in the context of the job role.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the performance criteria is detailed below.

RANGE STATEMENT

Hygiene procedures may relate to:

- personal hygiene
- safe and hygienic handling of food and beverages
- regular hand washing
- correct food storage
- suitable dress and personal protective equipment and clothing
- avoidance of cross-contamination
- hygienic cleaning practices to avoid cross-contamination
- use of cleaning equipment, clothes and materials to avoid cross-contamination
- safe handling and disposal of linen and laundry
- appropriate handling and disposal of garbage
- cleaning and sanitising
- procedures documented in the organisation food safety program
- procedures covered by staff training programs
- procedures required by the national food safety code.

Poor organisation practices may include:

- poor personal hygiene practices
- poor food handling practices that may result in the contamination of food
- poor cleaning practices that may result in cross-contamination of food and other items
- practices inconsistent with the organisation's food safety program
- outdated practices not in keeping with current organisation activities.

RANGE STATEMENT

- Hygiene hazards*** may include:
- contaminated food
 - vermin
 - airborne dust
 - items such as linen, tea towels and towels that may be contaminated with human waste, such as blood and body secretions
 - dirty equipment and utensils
 - contaminated garbage
 - use of practices not in keeping with current organisation activities
 - colleagues without appropriate training or understanding of good hygiene practices, policies and procedures
 - equipment not working correctly, such as fridge and temperature probes.
- Health issues*** may relate to:
- food-borne diseases
 - airborne diseases
 - infectious diseases.
- Other items worn*** may include:
- hair accessories
 - jewellery
 - watches
 - bandages.
- Cross-contamination of other items in the workplace*** may involve:
- infected linen
 - items such as linen, tea towels and towels that may be contaminated with human waste, such as blood and body secretions
 - dirty equipment and utensils
 - spreading bacteria from bathroom or bedroom areas to kitchen areas in an accommodation facility.

RANGE STATEMENT

Washing hands at appropriate times might include:

- immediately before working with food
- immediately after handling raw food
- before commencing or recommencing work with food
- immediately after using the toilet
- immediately after smoking, coughing, sneezing, blowing the nose, eating, drinking, and touching the hair, scalp or any wound.

Appropriate facilities for hand washing may include:

- warm running water
- soap
- single use towels
- designated hand washing sink.

Unit Sector(s)

Sector

Cross-Sector

Competency field

Competency field

Occupational Health and Safety

TAEASS401B Plan assessment activities and processes

Modification History

Version	Comments
----------------	-----------------

TAEASS301B	Released with <i>TAE10 Training and Education Training Package version 2.0</i>
------------	--

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to plan and organise the assessment process, including recognition of prior learning (RPL), in a competency-based assessment system. It also includes the development of simple assessment instruments.

Application of the Unit

This unit typically applies to assessors and workplace supervisors with assessment planning responsibilities; and trainers or other assessors responsible for planning assessment, including RPL.

The unit is suitable for those with an existing assessment strategy which documents the overall framework for assessment.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1. Determine assessment approach	<p>1.1 Identify candidate and confirm <i>purposes and context of assessment/RPL</i> with relevant people according to <i>legal, organisational and ethical requirements</i></p> <p>1.2 Identify and access <i>benchmarks for assessment/RPL</i> and any specific assessment guidelines</p>
2. Prepare the assessment plan	<p>2.1 Determine evidence and <i>types of evidence</i> needed to demonstrate competence, according to the <i>rules of evidence</i></p> <p>2.2 Select <i>assessment methods</i> which will support the collection of defined evidence, taking into account the context in which the assessment will take place</p> <p>2.3 Document all aspects of the <i>assessment plan</i> and confirm with relevant personnel</p>
3. Develop assessment instruments	<p>3.1 Develop <i>simple assessment instruments</i> to meet target group needs</p> <p>3.2 Analyse <i>available assessment instruments</i> for their suitability for use and modify as required</p> <p>3.3 <i>Map assessment</i> instruments against unit or course requirements</p> <p>3.4 Write clear instructions for candidate about the use of the instruments</p> <p>3.5 Trial draft assessment instruments to validate content and applicability, and record outcomes</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- cognitive interpretation skills to:
 - interpret competency standards and other assessment documentation, including material relating to reasonable adjustment
 - identify opportunities for integrated competency assessment
 - contextualise competency standards to the operating assessment environment, including RPL
 - consider access and equity needs of diverse candidates
- technology skills to use appropriate equipment and software to communicate effectively with others
- research and evaluation skills to:
 - obtain competency standards, assessment tools and other relevant assessment resources
 - research candidate characteristics and any reasonable adjustment needs
 - evaluate feedback, and determine and implement improvements to processes
- literacy skills to read and interpret relevant information to design and facilitate assessment and recognition processes
- communication skills to discuss assessment, including RPL processes with clients and other assessors
- interpersonal skills to:
 - demonstrate sensitivity to access and equity considerations and candidate diversity
 - promote and implement equity, fairness, validity, reliability and flexibility in planning an assessment processes.
- **Required knowledge**
- ethical and legal requirements of an assessor
- competency-based assessment, including:
 - work focused
 - criterion referenced
 - standards based
 - evidence based
- different purposes of assessment and different assessment contexts, including RPL
- how to read and interpret the identified competency standards as the benchmarks for assessment
- how to contextualise competency standards within relevant guidelines
- four principles of assessment and how they guide the assessment process
- purpose and features of evidence, and different types of evidence used in competency-based assessments, including RPL
- rules of evidence and how they guide evidence collection
- different types of assessment methods, including suitability for collecting various types of evidence

- assessment instruments and their purpose; different types of instruments; relevance of different instruments for specific evidence-gathering opportunities.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Evidence of the ability to: • plan and organise the assessment process on a minimum of two occasions • collect evidence that demonstrates: <ul style="list-style-type: none"> • documented assessment plans • having covered a range of assessment events • catering for a number of candidates • different competency standards or accredited curricula • an RPL assessment • contextualisation of competency standards and the selected assessment tools, where required • incorporation of reasonable adjustment strategies • development of simple assessment instruments for use in the process • organisational arrangements.
Context of and specific resources for assessment	<p>Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided.</p> <p>Assessment must ensure access to training products, such as training packages and accredited course documentation.</p>
Method of assessment	
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Purposes of assessment/ RPL</i> may include:</p>	<ul style="list-style-type: none"> • recognising current existing competence of candidates • determining if competence has been achieved following learning • establishing candidate progress towards achievement of competence • determining language, literacy and numeracy needs of candidates • certifying competence through a qualification or Statement of Attainment • licensing or regulatory requirements.
<p><i>Context of assessment/ RPL</i> may include:</p>	<ul style="list-style-type: none"> • environment in which the assessment/RPL will be carried out, including real or simulated workplace • opportunities for collecting evidence in a number of situations • relationships between competency standards and: <ul style="list-style-type: none"> • evidence to support RPL • work activities in the candidate's workplace • learning activities • who carries out the assessment/RPL.
<p><i>Organisational, legal and ethical requirements</i> may include:</p>	<ul style="list-style-type: none"> • assessment system policies and procedures • assessment strategy requirements • reporting, recording and retrieval systems for assessment, including RPL • quality assurance systems • business and performance plans • access and equity policies and procedures • collaborative and partnership arrangements • defined resource parameters • mutual recognition arrangements • industrial relations systems and processes, awards, and enterprise agreements • Australian Quality Training Framework • registration scope • human resources policies and procedures • legal requirements, including:

	<ul style="list-style-type: none"> • anti-discrimination • equal employment opportunity • job role, responsibilities and conditions • relevant industry codes of practice • confidentiality and privacy requirements • OHS considerations, including: <ul style="list-style-type: none"> • ensuring OHS requirements are adhered to during the assessment process • identifying and reporting OHS hazards and concerns to relevant personnel.
Benchmarks for assessment/RPL may include:	<ul style="list-style-type: none"> • criterion against which the candidate is assessed or prior learning recognised, which may be: <ul style="list-style-type: none"> • competency standard/unit of competency • assessment criteria of course curricula • performance specifications of an enterprise or industry • product specifications.
Types of evidence may include:	<ul style="list-style-type: none"> • direct • indirect • supplementary.
Rules of evidence ensure that evidence collected is:	<ul style="list-style-type: none"> • valid • sufficient • authentic • current.
Assessment methods are the particular techniques used to gather evidence and may include:	<ul style="list-style-type: none"> • direct observation, for example: <ul style="list-style-type: none"> • real work/real time activities at the workplace • work activities in a simulated workplace environment • structured activities, for example: <ul style="list-style-type: none"> • simulation exercises and role-plays • projects • presentations • activity sheets • questioning, for example: <ul style="list-style-type: none"> • written questions, e.g. on a computer • interviews • self-assessment • verbal questioning • questionnaires • oral or written examinations (applicable at higher AQF levels) • portfolios of evidence, for example:

	<ul style="list-style-type: none"> • collection of work samples compiled by candidate • product with supporting documentation • historical evidence • journal or log book • information about life experience • review of products, for example: <ul style="list-style-type: none"> • testimonials and reports from employers and supervisors • evidence of training • authenticated prior achievements • interview with employer, supervisor, or peer.
Assessment plan may include:	<ul style="list-style-type: none"> • overall planning document describing: <ul style="list-style-type: none"> • what is to be assessed • when assessment is to take place • where assessment is to take place • how assessment is to take place.
Simple assessment instruments may include:	<ul style="list-style-type: none"> • instruments developed by an assessor as part of formative or summative assessment activities, including: <ul style="list-style-type: none"> • profiles of acceptable performance measures • templates and proformas • specific questions or activities • evidence and observation checklists • checklists for the evaluation of work samples • recognition portfolios • candidate self-assessment materials • instruments developed elsewhere that have been modified by the assessor for use with a particular client group.
Available assessment instruments may include:	<ul style="list-style-type: none"> • commercially available instruments • those created by others inside the registered training organisation.
Map assessment means:	<ul style="list-style-type: none"> • showing a clear relationship between the evidence and the requirements of the unit.

Unit Sector(s)

Assessment

Custom Content Section

Not applicable.

TAEASS402B Assess competence

Modification History

Version	Comments
---------	----------

TAEASS402B	Released with <i>TAE10 Training and Education Training Package version 2.0</i>
------------	--

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to assess the competence of a candidate.

Application of the Unit

This unit typically applies to assessors.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1. Prepare for assessment	<p>1.1 Interpret <i>assessment plan</i> and confirm organisational, legal and ethical requirements for conducting assessment with relevant people</p> <p>1.2 Access and interpret relevant <i>benchmarks for assessment</i> and nominated <i>assessment tools</i> to confirm the requirements for evidence to be collected</p> <p>1.3 Arrange identified material and physical resource requirements according to assessment system policies and procedures</p> <p>1.4 Organise <i>specialist support</i> required for assessment</p> <p>1.5 Explain, discuss and agree details of the assessment plan with candidate</p>
2. Gather quality evidence	<p>2.1 Use agreed <i>assessment methods</i> and instruments to gather, organise and document evidence in a format suitable for determining competence</p> <p>2.2 Apply the principles of assessment and rules of evidence in gathering quality evidence</p> <p>2.3 Determine opportunities for evidence gathering in actual or simulated activities through consultation with the candidate and relevant personnel</p> <p>2.4 Determine opportunities for integrated assessment activities and document any changes to assessment instruments where required</p>
3. Support the candidate	<p>3.1 Guide candidates in gathering their own evidence to support recognition of prior learning (RPL)</p> <p>3.2 Use appropriate communication and interpersonal skills to develop a professional relationship with the candidate that reflects sensitivity to <i>individual differences</i> and enables two-way <i>feedback</i></p> <p>3.3 Make decisions on reasonable adjustments with the candidate, based on candidate's needs and characteristics</p> <p>3.4 Access required specialist support in accordance with the assessment plan</p> <p>3.5 Address any OHS risk to person or equipment immediately</p>
4. Make the assessment decision	<p>4.1 Examine collected evidence and evaluate it to ensure that it reflects the evidence required to demonstrate competence</p> <p>4.2 Use judgement to infer whether competence has been demonstrated, based on the available evidence</p> <p>4.3 Make assessment decision in line with agreed assessment procedures and according to agreed assessment plan</p> <p>4.4 Provide clear and constructive feedback to candidate regarding</p>

	the assessment decision and develop any follow-up action plan required
5. Record and report the assessment decision	5.1 Record assessment outcomes promptly and accurately 5.2 Complete and process an assessment report according to agreed assessment procedures 5.3 Inform other relevant parties of the assessment decision according to confidentiality conventions
6. Review the assessment process	6.1 Review the assessment process in <i>consultation</i> with relevant people to improve own future practice 6.2 Document and record the review according to relevant assessment system policies and procedures

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analysis and interpretation skills to:
 - break down competency standards
 - interpret assessment tools and other assessment information, including those used in RPL
 - identify candidate needs
 - make judgements based on assessment of available evidence
- observation skills to:
 - recognise candidate's prior learning
 - determine candidate's performance
 - identify when candidate may need assistance during the assessment processes
- research and evaluation skills to:
 - access required human and material resources for assessment
 - access assessment system policies and procedures
 - access RPL policies and procedures
 - evaluate evidence
 - evaluate assessment process
- cognitive skills to:
 - weigh up the evidence and make a judgement
 - consider and recommend reasonable adjustments
- decision-making skills to:
 - recognise a candidate's prior learning
 - make a decision on a candidate's competence
- literacy skills to:
 - read and interpret relevant information to conduct assessment
 - prepare required documentation and records or reports of assessment outcomes in required format
- communication and interpersonal skills to:
 - explain the assessment, including RPL process
 - give clear and precise instructions
 - ask effective questions
 - provide clarification
 - discuss process with other relevant people
 - give appropriate feedback
 - discuss assessment outcome
 - use language appropriate to candidate and assessment environment
 - establish a working relationship with candidate.

Required knowledge

- competency-based assessment, including:
 - vocational education and training as a competency-based system
 - criterion-referenced assessment as distinct from norm-referenced assessment
 - competency standards as the basis of qualifications
 - structure and application of competency standards
 - principles of assessment and how they are applied
 - rules of evidence and how they are applied
 - range of assessment purposes and assessment contexts, including RPL
 - different assessment methods, including suitability for gathering various types of evidence, suitability for content of units, and resource requirements and associated costs
 - reasonable adjustments and when they are applicable
 - types and forms of evidence, including assessment instruments that are relevant to gathering different types of evidence used in competency-based assessment, including RPL
 - potential barriers and processes relating to assessment tools and methods
 - assessment system, including policies and procedures established by the industry, organisation or training authority
- RPL policies and procedures established by the organisation
- cultural sensitivity and equity considerations
- relevant policy, legislation, codes of practice and national standards, including commonwealth and state or territory legislation that may affect training and assessment in the vocational education and training sector, such as:
 - copyright and privacy laws in terms of electronic technology
 - security of information
 - plagiarism
 - training packages and competency standards
 - licensing requirements
 - industry and workplace requirements
 - duty of care under common law
 - recording information and confidentiality requirements
 - anti-discrimination, including equal employment opportunity, racial vilification and disability discrimination
 - workplace relations
 - industrial awards and enterprise agreements
- OHS responsibilities associated with assessing competence, such as:
 - requirements for reporting hazards and incidents
 - emergency procedures
 - procedures for use of relevant personal protective equipment
 - safe use and maintenance of relevant equipment

- sources of OHS information.

-

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • assess competence of a number of candidates within the vocational education and training context against different units of competency or accredited curricula, following the relevant assessment plan • assess at least one candidate for RPL • consider reasonable adjustment and the reasons for decisions in at least one assessment • cover an entire unit of competency and show: <ul style="list-style-type: none"> • the application of different assessment methods and instruments involving a range of assessment activities and events • two-way communication and feedback • how judgement was exercised in making the assessment decision • how and when assessment outcomes were recorded and reported • assessment records and reports completed in accordance with assessment system and organisational, legal and ethical requirements • how the assessment process was reviewed.
Context of and specific resources for assessment	Evidence must be gathered in the workplace whenever possible. Where no workplace is available, a simulated workplace must be provided.
Method of assessment	
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Assessment plan</i> may include:</p>	<ul style="list-style-type: none"> • overall planning, describing: <ul style="list-style-type: none"> • what is to be assessed • when assessment is to take place • where assessment is to take place • how assessment is to take place.
<p><i>Benchmarks for assessment:</i></p>	<ul style="list-style-type: none"> • refer to a criterion against which the candidate is assessed • may be a competency standard/unit of competency, assessment criteria of course curricula, performance specifications, or product specifications.
<p><i>Assessment tools</i> include:</p>	<ul style="list-style-type: none"> • the learning or competency unit(s) to be assessed • the target group, context and conditions for the assessment • the tasks to be administered to the candidate • an outline of the evidence to be gathered from the candidate • the evidence criteria used to judge the quality of performance (i.e. the assessment decision-making rules) • the administration, recording and reporting requirements • the evidence of how validity and reliability have been tested and built into the design and use of the tool.
<p><i>Specialist support</i> may include:</p>	<ul style="list-style-type: none"> • assistance by third party, such as carer or interpreter • support from specialist educator • provision of developed online assessment activities • support for remote or isolated candidates and assessors • support from subject matter or safety experts • advice from regulatory authorities • assessment teams and panels • support from lead assessors • advice from policy development experts.
<p><i>Assessment methods</i> include:</p>	<ul style="list-style-type: none"> • particular techniques used to gather different types of evidence, such as: <ul style="list-style-type: none"> • direct observation

	<ul style="list-style-type: none"> • structured activities • oral or written questioning • portfolios of evidence • review of products • third-party feedback.
Individual differences may include:	<ul style="list-style-type: none"> • English language, literacy and numeracy barriers • physical impairment or disability • intellectual impairment or disability • medical condition that may impact on assessment, such as arthritis, epilepsy, diabetes and asthma • learning difficulties • mental or psychological disability • religious and spiritual observances • cultural images and perceptions • age • gender.
Feedback may include:	<ul style="list-style-type: none"> • ensuring assessment/RPL process is understood • ensuring candidate concerns are addressed • enabling questions and answers • confirming outcomes • identifying further evidence to be provided • discussing action plans • confirming gap training needed • providing information regarding available appeal processes • suggesting improvements in evidence gathering and presentation.
Consultation may involve:	<ul style="list-style-type: none"> • moderation with other assessors, or training and assessment coordinators • discussions with client, team leaders, managers, RPL coordinators, supervisors, coaches and mentors • technical and subject experts • English language, literacy and numeracy experts.

Unit Sector(s)

Assessment

Custom Content Section

Not applicable.

TAEASS403B Participate in assessment validation

Modification History

Version	Comments
---------	----------

TAEASS403B	Released with <i>TAE10 Training and Education Training Package version 2.0</i>
------------	--

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to participate in an assessment validation process.

Application of the Unit

This unit typically applies to those participating in assessment validation. It does not address leading the validation process.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT	PERFORMANCE CRITERIA
---------	----------------------

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1. Prepare for validation	<p>1.1 Discuss and confirm the approach to validation according to defined purposes, context, and relevant <i>assessment system policies and procedures</i></p> <p>1.2 Analyse relevant <i>benchmarks for assessment</i> and agree on the evidence needed to demonstrate competence</p> <p>1.3 Arrange <i>materials</i> for <i>validation activities</i></p>
2. Contribute to validation process	<p>2.1 Demonstrate active <i>participation</i> in validation sessions and activities using appropriate communication skills</p> <p>2.2 Participate in validation sessions and activities by applying the principles of assessment and rules of evidence</p> <p>2.3 Check all documents used in the validation process for accuracy and version control</p>
3. Contribute to validation outcomes	<p>3.1 Collectively discuss validation findings to support improvements in the quality of assessment</p> <p>3.2 Discuss, agree and record recommendations to improve assessment practice</p> <p>3.3 Implement changes to own assessment practice, arising from validation</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- planning skills to participate in validation activities within agreed timeframes
- problem-solving skills to identify information that is inconsistent, ambiguous or contradictory
- evaluation skills to:
 - determine evidence requirements from competency standards
 - review assessment process, tools and methods
 - review collected evidence
- communication skills to share information in validation meetings.

Required knowledge

- how to interpret competency standards and other related assessment information to determine the evidence needed to demonstrate competence, including:
 - criterion-referenced assessment as distinct from norm-referenced assessment
 - various reasons for carrying out validation and the different approaches to validation that may be appropriate before, during and after assessment
 - critical aspects of validation, including validation of assessment processes, methods and products
 - relevant OHS legislation, codes of practice, standards and guidelines, impacting on assessment
 - legal and ethical requirements of assessors, particularly in relation to validation activities
- principles of assessment
- rules of evidence.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • actively participate in a minimum of two validation sessions or meetings which, in combination, address the critical aspects of validation using different validation approaches and activities • clearly explain purposes of validation and the legal and ethical responsibilities of assessors • collate documentation relating to validation process in a logical manner • demonstrate communication and liaison with relevant people • provide feedback and interpret documentation in validation sessions • record contribution to validation findings.
Context of and specific resources for assessment	<p>Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided.</p> <p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • assessment reports and records • other documentation relevant to validation.
Method of assessment	
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Assessment system policies and procedures</i> may include:</p>	<ul style="list-style-type: none"> • candidate selection • rationale and purpose of competency-based assessment • assessment records, and data and information management • recognition of current competency, recognition of prior learning and credit arrangements • assessment reporting procedures • assessment appeals • candidate grievances and complaints • validation • evaluation and internal audit • costs and resourcing • access and equity, and reasonable adjustment • partnership arrangements • links with human resource or industrial relations system • links with overall quality management system.
<p><i>Benchmarks for assessment:</i></p>	<ul style="list-style-type: none"> • refers to criterion against which the candidate is assessed • may be one or more units of competency or assessment criteria of course curricula.
<p><i>Materials</i> may include:</p>	<ul style="list-style-type: none"> • assessment tools • samples of collected evidence • documentation outlining the basis of assessment decisions • reports and records of assessment decisions • samples of benchmarks of appropriate evidence • Assessment Guidelines of the relevant training packages • information from the evidence guide of the relevant units of competency.
<p><i>Validation activities</i> may include:</p>	<ul style="list-style-type: none"> • analysing and reviewing: <ul style="list-style-type: none"> • assessment tools • collected evidence • assessment decisions and records of assessment outcomes • other aspects of assessment policies, processes and outcomes • recording evidence of validation processes and outcomes.
<p><i>Participation</i> may include comparison and</p>	<ul style="list-style-type: none"> • assessment practices • assessment plans

evaluation of:	<ul style="list-style-type: none">• interpretation of units of competency• assessment methods and instruments• assessment decisions• collected evidence.
----------------	---

Unit Sector(s)

Assessment

Custom Content Section

Not applicable.

TAEASS502B Design and develop assessment tools

Modification History

Version	Comments
----------------	-----------------

TAEASS502B	Released with <i>TAE10 Training and Education Training Package version 2.0</i>
------------	--

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to design and develop assessment tools, including tools used in formative, summative and recognition of prior learning (RPL) assessment.

Application of the Unit

An assessment tool is used to guide the collection of quality evidence in the assessment process. It includes the specific instruments for collecting evidence, as well as information about assessment methods and the procedures to be followed in conducting the assessment. This unit typically applies to those involved in training and assessment or in the development of learning resources or products, assessors, learning resource or product developers, and training and assessment consultants.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

ELEMENT

Elements describe the essential outcomes of a unit of competency.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1. Determine focus of the assessment tool	<p>1.1 Identify target group of candidates, purposes of <i>assessment tool</i>, and <i>contexts</i> in which the tool will be used</p> <p>1.2 Access relevant <i>benchmarks for assessment</i> and interpret them to establish evidence required to demonstrate competence</p> <p>1.3 Identify, access and interpret <i>organisational, legal and ethical requirements</i> and relevant <i>contextualisation guidelines</i></p> <p>1.4 Identify other <i>related documentation</i> to inform assessment tool development</p>
2. Design assessment tool	<p>2.1 Select assessment methods that support the collection of defined evidence, taking into account the context in which the assessment will take place and meeting the principles of assessment</p> <p>2.2 Enable candidates to show or support their claim for recognition of current competency through selected assessment methods</p> <p>2.3 Consider different <i>assessment instruments</i> for the selected assessment methods to generate options for collection of evidence</p> <p>2.4 Consider how the assessment instruments will be administered</p>
3. Develop assessment tool	<p>3.1 Develop specific assessment instruments that address the evidence to be collected</p> <p>3.2 Define and document clear and specific <i>procedures</i> instructing assessor and candidate on the administration and use of the instruments</p> <p>3.3 Consider requirements of <i>assessment system policies and procedures</i> and address storage and retrieval needs, and review, evaluation and version control procedures as part of this process</p>
4. Review and trial assessment tool	<p>4.1 Check draft assessment tools against <i>evaluation criteria</i> and amend as required</p> <p>4.2 Trial assessment tools to validate content and applicability</p> <p>4.3 Collect and document feedback from relevant people involved in trialling</p> <p>4.4 Make amendments to final tool based on analysis of feedback</p> <p>4.5 Appropriately format and file finalised assessment tool according to assessment system policies and procedures and organisational, legal and ethical requirements</p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

- analysis and interpretation skills to review and evaluate assessment tools
- critical thinking skills to translate the interpreted competency standards and other relevant assessment information into meaningful assessment instruments
- design skills to develop different assessment tool designs
- research and evaluation skills to evaluate assessment tools on the basis of trials and feedback.

Required knowledge

- principles of assessment and how they are applied when developing assessment tools
- different types and rules of evidence
- different assessment contexts and relationship to developing assessment tools
- components of competency and dimensions of competency
- contextualisation of competency standards and contextualisation guidelines
- Assessment Guidelines of training packages as relevant to developing assessment tools
- different assessment methods, their purposes and uses
- evaluation methodologies appropriate to the trial and review of assessment tools
- principles of reasonable adjustment
- relevant workplace information, including:
 - organisational policies and procedures
 - workplace tasks and activities
 - standard operating procedures
 - procedures for use of relevant personal protective equipment.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • develop assessment tools that support different assessment methods and address at least three units of competency packaged at different Australian Qualifications Framework (AQF) levels • develop assessment tools that: <ul style="list-style-type: none"> • include the instruments for collecting evidence, reflecting the principles of assessment and the rules of evidence, and the related instructions to assessor/s and candidates • show how the contextual needs of different environments are addressed • report on the trial and review of the assessment tools, including proposed changes.
Context of and specific resources for assessment	<p>Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided.</p> <p>Assessment must ensure access to:</p> <ul style="list-style-type: none"> • training products, such as training packages and accredited course documentation.
Method of assessment	
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p>Assessment tool includes:</p>	<ul style="list-style-type: none"> • the learning or competency unit(s) to be assessed • the target group, context and conditions for the assessment • the tasks to be administered to the candidate • an outline of the evidence to be gathered from the candidate • the evidence criteria used to judge the quality of performance (i.e. the assessment decision-making rules) • the administration, recording and reporting requirements • the evidence of how validity and reliability have been tested and built into the design and use of the tool.
<p>Contexts of assessment/RPL may include:</p>	<ul style="list-style-type: none"> • environment in which the assessment/RPL will be carried out, including real or simulated workplace • opportunities for collecting evidence in a number of situations • relationships between competency standards and evidence to support RPL • who carries out the assessment/RPL • relationships between competency standards and work activities in the candidate's workplace • relationships between competency standards and learning activities.
<p>Benchmarks for assessment:</p>	<ul style="list-style-type: none"> • refer to criteria against which the candidate is assessed which may be a unit of competency, assessment criteria of course curricula, performance specifications, or product specifications • where the benchmark is one or more units of competency the standards may be contextualised to reflect the immediate operating environment.
<p>Organisational, legal and ethical requirements may include:</p>	<ul style="list-style-type: none"> • assessment system policies and procedures • industrial relations systems and processes, awards and enterprise agreements • licensing and legal ramifications of assessing competence • reporting, recording and retrieval systems for assessment • requirements of training, assessment and validation, including the AQTF Standards for Registered Training Organisations • human resource policies, procedures and legal requirements,

	<p>including:</p> <ul style="list-style-type: none"> • anti-discrimination • equal employment opportunity • job role, responsibilities and conditions • relevant industry codes of practice • confidentiality and privacy requirements of information relating to completed assessments • OHS considerations, including: <ul style="list-style-type: none"> • ensuring assessment methods and tools incorporate appropriate measures to maintain the health, safety and welfare of candidates • ensuring OHS requirements and specified benchmarks are accounted for within evidence requirements and assessment materials • identifying hazards and relevant risk control procedures associated with the assessment environment.
<i>Contextualisation guidelines</i> relate to:	<ul style="list-style-type: none"> • relevant training package or accredited course contextualisation guidelines.
<i>Related documentation</i> may include:	<ul style="list-style-type: none"> • requirements set out in the Assessment Guidelines of the relevant training packages • information from the competency standards about: <ul style="list-style-type: none"> • resources required for assessment • assessment context • appropriate assessment methods • assessment activities identified in accredited modules derived from the relevant competency standards • assessment activities in support materials related to the relevant competency standards • any requirements of OHS, legislation, codes of practice, standards and guidelines • indicators and levels of competence of the Australian Core Skills Framework • organisational requirements for demonstration of work performance • product specifications.
<i>Assessment instrument</i> may be:	<ul style="list-style-type: none"> • profiles of acceptable performance measures • templates and proformas • specific questions or activities • evidence and observation checklists • checklists for the evaluation of work samples • recognition portfolios • candidate self-assessment materials.

<i>Procedures</i> may include:	<ul style="list-style-type: none"> • those that guide the application of the instruments, such as: <ul style="list-style-type: none"> • instructions for the candidates • instructions for administering the assessment tool, including resources needed to conduct assessment and the context for the use of tools • guidance for development or review of decision-making process • guidance on reasonable adjustments • specified variations or restrictions on the tools • rules for verifying assessment decisions • OHS requirements, for example, identified hazards in the assessment environment and appropriate controls and reporting mechanisms • information on access and equity considerations.
<i>Assessment system policies and procedures</i> may include:	<ul style="list-style-type: none"> • assessment records, and data and information management • recognition of current competency, RPL and credit arrangements • assessor needs, qualifications and maintenance of currency • assessment reporting procedures • assessment appeals • candidate grievances and complaints • validation • evaluation and internal audit • costs and resourcing • access and equity, and reasonable adjustment • partnership arrangements • links with human resource or industrial relations systems • links with overall quality management system.
<i>Evaluation criteria</i> may include:	<ul style="list-style-type: none"> • effectiveness and relevance to the competency standards • whether assessment tool is appropriate to selected assessment methods • whether assessment tool is appropriate to target group and assessment context • appropriateness of language and literacy for intended audience.

Unit Sector(s)

Assessment

Custom Content Section

Not applicable.

TAEDEL301A Provide work skill instruction

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to conduct individual and group instruction and demonstrate work skills, using existing learning resources in a safe and comfortable learning environment. The unit covers the skills and knowledge required to determine the success of both the training provided and one's own personal training performance. It emphasises the training as being driven by the work process and context.
------------------------	--

Application of the Unit

Application of the unit	This unit supports a wide range of applications across any workplace setting and so can be used by any organisation. Its use is not restricted to training organisations.
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Organise instruction and demonstration	1.1. Gather information about <i>learner characteristics</i> and learning needs 1.2. Confirm a <i>safe learning environment</i> 1.3. Gather and check <i>instruction and demonstration objectives</i> and seek assistance if required 1.4. Access and review relevant <i>learning resources</i> and <i>learning materials</i> for suitability and relevance, and seek assistance to interpret the contextual application 1.5. Organise access to necessary equipment or physical resources required for instruction and demonstration 1.6. Notify learners of <i>details</i> regarding the implementation of the learning program and/or delivery plan
2. Conduct instruction and demonstration	2.1. Use interpersonal skills with learners to establish a safe and comfortable learning environment 2.2. Follow the learning program and/or delivery plan to cover all learning objectives 2.3. Brief learners on any <i>OHS procedures</i> and requirements prior to and during training 2.4. Use <i>delivery techniques</i> to structure, pace and enhance learning 2.5. Apply <i>coaching</i> techniques to assist learning 2.6. Use communication skills to provide information, instruct learners and demonstrate relevant work skills 2.7. Provide opportunities for practice during instruction and through work activities 2.8. Provide and discuss feedback on learner performance to support learning
3. Check training performance	3.1. Use <i>measures</i> to ensure learners are acquiring and can use new technical and generic skills and knowledge 3.2. Monitor learner progress and outcomes in consultation with learner 3.3. Review relationship between the trainer/coach and the learner and adjust to suit learner needs
4. Review personal training performance and finalise documentation	4.1. Reflect upon personal performance in providing instruction and demonstration, and document strategies for improvement 4.2. Maintain, store and secure learner records according

ELEMENT	PERFORMANCE CRITERIA
	to organisational and legal requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- verbal and non-verbal communication techniques, such as:
 - asking relevant and appropriate questions
 - providing explanations
 - demonstrating
 - using listening skills
 - providing information clearly
- safety skills to implement OHS requirements, by acting and responding safely in order to:
 - identify hazards
 - conduct prestart-up checks if required
 - observe and interpret learner behaviour that may put people at risk
- time-management, skills to:
 - ensure all learning objectives are covered
 - pace learning
- reflection skills in order to:
 - identify areas for improvement
 - maintain personal skill development
- literacy skills to:
 - complete and maintain documentation
 - read and follow learning programs and plans
 - read and analyse learner information
- technology skills to operate audio-visual and technical equipment
- interpersonal skills to:
 - engage, motivate and connect with learners
 - provide constructive feedback
 - maintain appropriate relationships
 - establish trust
 - use appropriate body language
 - maintain humour
 - demonstrate tolerance
 - manage a group
 - recognise and be sensitive to individual difference and diversity
- observation skills to:
 - monitor learner acquisition of new skills, knowledge and competency

REQUIRED SKILLS AND KNOWLEDGE

requirements

- assess learner communication and skills in interacting with others
- identify learner concerns
- recognise learner readiness to take on new skills and tasks

Required knowledge

- learner characteristics and needs
- content and requirements of the relevant learning program and/or delivery plan
- sources and availability of relevant learning resources and learning materials
- content of learning resources and learning materials
- training techniques that enhance learning and when to use them
- introductory knowledge of learning principles and learning styles
- key OHS issues in the learning environment, including:
 - roles and responsibilities of key personnel
 - responsibilities of learners
 - relevant policies and procedures, including hazard identification, risk assessment, reporting requirements, safe use of equipment and emergency procedures
 - risk controls for the specific learning environment

Evidence Guide

EVIDENCE GUIDE	
<p>The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	<p>Assessment must address the scope of this unit and reflect all components of the unit. A range of appropriate assessment methods and evidence-gathering techniques must be used to determine competency. A judgement of competency should only be made when the assessor is confident that the required outcomes of the unit have been achieved and that consistent performance has been demonstrated.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of the ability to:</p> <ul style="list-style-type: none"> • carry out a minimum of three training sessions, involving demonstrating and instructing particular work skills for different groups; with each session addressing: <ul style="list-style-type: none"> • different learning objectives • a range of techniques and effective communication skills appropriate to the audience.
<p>Context of and specific resources for assessment</p>	<p>Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided.</p>
<p>Method of assessment</p>	
<p>Guidance information for assessment</p>	<p>For further information about assessment of this and other TAE units, refer to relevant implementation guidance published on the IBSA website (www.ibsa.org.au).</p>

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Learner characteristics</i> may include:</p>	<ul style="list-style-type: none"> • language, literacy and numeracy levels • learning styles • past learning and work experiences • specific needs • workplace culture.
<p><i>Safe learning environment</i> may include:</p>	<ul style="list-style-type: none"> • exit requirements • personal protective equipment • safe access • safe use of equipment.
<p><i>Instruction and demonstration objectives</i> may include:</p>	<ul style="list-style-type: none"> • competencies to be achieved • generic and technical skills, which may be: <ul style="list-style-type: none"> • provided by the organisation • developed by a colleague • individual or group objectives • learning outcomes.
<p><i>Learning resources</i> may include:</p>	<ul style="list-style-type: none"> • any material used to support learning, such as: <ul style="list-style-type: none"> • learner and user guides • trainer and facilitator guides • example training programs • specific case studies • professional development materials • assessment materials • a variety of formats • those produced locally • those acquired from other sources.
<p><i>Learning materials</i> may include:</p>	<ul style="list-style-type: none"> • handouts for learners • materials sourced from the workplace, e.g. workplace documentation, operating procedures, and specifications.
<p><i>Details</i> may include:</p>	<ul style="list-style-type: none"> • location and time • outcomes of instruction or demonstration

RANGE STATEMENT	
	<ul style="list-style-type: none"> • reason for instruction or demonstration • who will be attending instruction session.
<i>OHS procedures</i> may include:	<ul style="list-style-type: none"> • emergency procedures • hazards and their means of control • incident reporting • use of personal protective equipment • safe work practices • safety briefings • site-specific safety rules.
<i>Delivery techniques</i> may include:	<ul style="list-style-type: none"> • coaching • demonstration • explanation • group or pair work • providing opportunities to practise skills and solve problems • questions and answers.
<i>Coaching</i> may include:	<ul style="list-style-type: none"> • learning arrangements requiring immediate interaction and feedback • on-the-job instruction and 'buddy' systems • relationships targeting enhanced performance • short-term learning arrangements • working on a one-to-one basis.
<i>Measures</i> may include:	<ul style="list-style-type: none"> • informal review or discussion • learner survey • on-the-job observation • review of peer coaching arrangements.

Unit Sector(s)

Unit sector	Delivery and facilitation
--------------------	---------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

TAEDEL404A Mentor in the workplace

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to establish and develop a professional mentoring relationship with a learner, in particular an apprentice or trainee employed by, or undertaking work placement in, a workplace. It includes establishing the need for mentoring, developing a mentoring plan/framework, facilitating and monitoring the mentoring relationship, and evaluating the effectiveness of mentoring.
------------------------	--

Application of the Unit

Application of the unit	This unit typically applies to workplace supervisors or other work colleague with responsibility for mentoring in the workplace.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Develop a mentoring plan	1.1. Identify scope and boundaries of the <i>mentoring</i> relationship according to organisational procedures 1.2. Establish <i>ground rules</i> and negotiate realistic expectations 1.3. Establish and maintain confidentiality of the relationship in accordance with <i>legislation, policy and procedures</i>
2. Facilitate mentoring relationship	2.1. Develop learner's confidence, self-esteem, respect and trust in the mentoring relationship 2.2. Share personal experiences and knowledge with the person being mentored according to agreed objectives 2.3. Support the person being mentored to develop and use skills in problem solving and decision making 2.4. Use personal and professional networks to assist the person being mentored 2.5. Provide information, guidance and constructive guidance to enhance engagement in the workplace 2.6. Use <i>techniques for resolving differences</i> without damaging the relationship, and obtain assistance according to organisational policy and procedures
3. Monitor mentoring relationship	3.1. Provide planning assistance and guidance as requested by the person being mentored in a form and style to suit their requirements 3.2. Provide feedback to the person being mentored on progress towards achieving the expectations and goals of the mentoring process 3.3. Recognise and discuss changes in the <i>mentoring relationship</i> with appropriate <i>stakeholders</i> 3.4. Negotiate and manage closure of the mentoring arrangement once objectives have been met
4. Evaluate effectiveness of mentoring	4.1. Establish and discuss <i>benefits</i> gained from the mentoring process 4.2. Reflect on and articulate the personal benefits gained from providing mentoring 4.3. Identify and report the outcomes of the mentoring arrangement and the <i>benefits to the organisation</i> according to organisational policy and procedures to improve the mentoring system or program

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- planning and time-management skills to mentor in a workplace
- oral communication and language skills to motivate learners
- organisational skills to provide guidance and feedback to individuals
- interpersonal skills to:
 - engage in relationship building, including building trust and maintaining confidentiality
 - respond to diversity, including gender and disability
- communication skills to use a range of communication strategies, including listening, questioning, and giving and receiving feedback
- initiative and enterprise skills to apply procedures relating to OHS and environmental legislation in the context of workplace mentoring

Required knowledge

- relevant policy, legislation, codes of practice and national standards likely to impact on the provision of workplace mentoring
- training contracts and responsibilities of employer, registered training organisation (RTO) and funding body
- training plans and responsibilities
- training products and strategies for learning
- mentoring methodologies and strategies
- acceptable behaviour in the mentoring relationship
- equal employment opportunity, equity and diversity principles
- OHS relating to the work role, including:
 - hazards relating to the industry and specific workplace
 - reporting requirements for hazards and incidents
 - specific procedures for work tasks
 - safe use and maintenance of relevant equipment
 - emergency procedures
 - sources of OHS information

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must address the scope of this unit and reflect all components of the unit. Arrange of appropriate assessment methods and evidence-gathering techniques must be used to determine competency. A judgement of competency should only be made when the assessor is confident that the required outcomes of the unit have been achieved and that consistent performance has been demonstrated.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: <ul style="list-style-type: none"> • prepare a mentoring plan between the mentor and learner that reflects the scope and substance expected within a plan prepared for a learner undertaking a contracted apprenticeship or traineeship • facilitate at least three mentoring sessions • provide information on sessions, including comments and notes from both mentor and learner.
Context of and specific resources for assessment	Evidence must be gathered in the workplace wherever possible. Where no workplace is available, a simulated workplace must be provided.
Method of assessment	
Guidance information for assessment	For further information about assessment of this and other TAE units, refer to relevant implementation guidance published on the IBSA website (www.ibsa.org.au).

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p><i>Mentoring</i> may include:</p>	<ul style="list-style-type: none"> • long-term focus on personal growth and learning • wide range of learning oriented to: <ul style="list-style-type: none"> • support • guidance in personal or career growth • relationship, not just a procedure or activity • one person professionally assisting the career development of another.
<p><i>Ground rules</i> may include:</p>	<ul style="list-style-type: none"> • training for mentoring partners • mentoring agreement • active involvement of both partners in the mentoring process.
<p><i>Legislation, policy and procedures</i> may include:</p>	<ul style="list-style-type: none"> • commonwealth and state or territory legislation and regulations, such as: <ul style="list-style-type: none"> • privacy legislation • equal employment opportunity, anti-discrimination and harassment legislation • OHS legislation • user choice • organisational policy, procedures and protocols.
<p><i>Techniques for resolving differences</i> may include:</p>	<ul style="list-style-type: none"> • finding a mutually beneficial solution • self-disclosure • inviting discussion • providing explanations • accessing assistance.
<p><i>Mentoring relationship</i> may include:</p>	<ul style="list-style-type: none"> • informal workplace development program • formal mentoring process associated with a contracted apprenticeship or traineeship, involving a formal training plan.
<p><i>Stakeholders</i> may include:</p>	<ul style="list-style-type: none"> • trainee or apprentice • manager or supervisor • RTO • learning support services, including assistive technology

RANGE STATEMENT	
	and diagnostic testing <ul style="list-style-type: none"> • funding organisation • supplier of learning resources.
<i>Benefits</i> may include:	<ul style="list-style-type: none"> • insights into organisational culture, attitudes and expected behaviours • supportive environment in which successes and failures can be evaluated • networking opportunities • development of workplace competence and self-confidence • recognition and job satisfaction • mutual respect.
<i>Benefits to the organisation</i> may include:	<ul style="list-style-type: none"> • increased productivity • new competencies in the person being mentored • staff motivation • more committed, involved and responsible learners.

Unit Sector(s)

Unit sector	Delivery and facilitation
--------------------	---------------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		

TAEDES401A Design and develop learning programs

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to conceptualise, design, develop and review learning programs to meet an identified need for a group of learners. The unit addresses the skills and knowledge needed to identify the parameters of a learning program, determine the design, outline the content and review its effectiveness.
------------------------	---

Application of the Unit

Application of the unit	This unit typically applies to a trainer or facilitator who designs or develops learning programs. A learning program can be discrete, providing a planned learning approach that relates to specific learning and training needs, or it may form part of the learning design for a qualification.
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Define parameters of the learning program	1.1. Clarify <i>purpose</i> and type of learning program with key stakeholders 1.2. Access and confirm the competency standards and <i>other training specifications</i> on which to base the learning program 1.3. Identify language, literacy and numeracy requirements of the program 1.4. Identify and consider characteristics of the target learner group
2. Work within the vocational education and training (VET) policy framework	2.1. Access relevant <i>VET policies</i> and frameworks, and apply to work practices 2.2. Identify changes to training packages and accredited courses and apply these to program development 2.3. Conduct work according to organisational quality assurance policies and procedures
3. Develop program content	3.1. Research, develop and document specific subject matter content according to agreed design options 3.2. Evaluate existing learning resources for content relevance and quality 3.3. Specify assessment requirements of the learning program
4. Design structure of the learning program	4.1. Break the learning content into manageable segments and document timeframe for each segment 4.2. Determine and confirm <i>delivery strategies</i> and required assessment methods and tools 4.3. Document complete learning program in line with organisational requirements 4.4. Review complete program with key stakeholders and adjust as required 4.5. Ensure a safe learning progression by analysing risks in the learning environment and including a risk control plan

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- organisational skills to ensure resources are available and suitable
- evaluation skills to determine the time required for each learning segment and the overall timelines of the learning program
- cognitive skills to develop the learning program content and design its structure
- language and literacy skills to read and interpret a range of documentation, including technical and subject matter documents, references and texts

Required knowledge

- information about training package developers and course accreditation agencies responsible for specific learning program parameters
- training packages and relevant competency standards to be used as the basis of the learning program
- other performance standards and criteria to be used as the basis of the learning program, where relevant
- distinction and relationship between a training package/accredited course, learning strategy and learning program, where linked
- different purposes and focus of learning programs
- sound knowledge of learning principles
- instructional design principles relating to different design options for learning program design and structure
- availability and types of different relevant learning resources, learning materials and pre-developed learning activities
- methodology relating to developing and documenting new learning activities and related learning materials
- different delivery modes and methods
- relevant policies, legal requirements, codes of practice and national standards, including commonwealth and state or territory legislation that may affect training and assessment in the VET sector
- relevant OHS knowledge relating to the work role, and OHS considerations that need to be included in the learning program

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	Assessment must address the scope of this unit and reflect all components of the unit. Arrange of appropriate assessment methods and evidence-gathering techniques must be used to determine competency. A judgement of competency should only be made when the assessor is confident that the required outcomes of the unit have been achieved and that consistent performance has been demonstrated.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: <ul style="list-style-type: none"> • design, develop and review learning programs within the VET context • prepare and develop a minimum of two learning programs: <ul style="list-style-type: none"> • that contain differentiated learning program designs to reflect particular needs, contexts and timelines • at least one of which must be based on competency standards or accredited courses and must cover at least one entire unit of competency or accredited course module.
Context of and specific resources for assessment	Evidence must be gathered in the workplace whenever possible. Where no workplace is available, a simulated workplace must be provided.
Method of assessment	
Guidance information for assessment	For further information about assessment of this and other TAE units, refer to relevant implementation guidance published on the IBSA website (www.ibsa.org.au).

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

<p><i>Purpose</i> may include:</p>	<ul style="list-style-type: none"> • developing vocational competency or vocational skills • developing language, literacy and numeracy skills • developing general education • meeting legislative, licensing and registration requirements, such as OHS requirements.
<p><i>Other training specifications</i> may include:</p>	<ul style="list-style-type: none"> • curriculum specifications • product specifications • organisational work requirements and training needs • induction needs • language, literacy and numeracy development needs • regulatory and licensing requirements.
<p><i>Vocational education and training policies</i> may include:</p>	<ul style="list-style-type: none"> • policies and procedures set by national organisations, such as the National Quality Council • Australian Quality Training Framework • other relevant policies.
<p><i>Delivery strategies</i> may include:</p>	<ul style="list-style-type: none"> • focus of delivery in terms of size and type of group • context of delivery, for example: <ul style="list-style-type: none"> • in the workplace • in a training room • in a community setting • mode of delivery, for example: <ul style="list-style-type: none"> • face-to-face • online • blended delivery mode • delivery methods, for example: <ul style="list-style-type: none"> • lock-step, learner-paced and mixed • interactive, participative and collaborative • blended delivery methods.

Unit Sector(s)

Unit sector	Learning design
-------------	-----------------

Competency field

Competency field	
------------------	--

Co-requisite units

Co-requisite units		

TLIA2009A Complete and check import/export documentation

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to complete and or evaluate import and export documentation, and check documentation in accordance with the requirements of Customs and related legislation and workplace procedures. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant Customs and related legislation and workplace requirements concerning the completion and checking of import/export documentation.

Work is performed under some supervision generally within a team environment. Work is undertaken in a range of environments including small to large worksites in the customs broking and freight forwarding industries.

This unit is normally packaged at AQF II or above.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify procedures required for documentation for import/export of goods	1.1 Documents required for import/export of goods are identified 1.2 Required documents are sourced 1.3 Content requirements for each section of the documentation are applied 1.4 Timelines for completion of documents are identified and noted 1.5 Requirements for permits and other documentation (e.g. Quarantine) are identified and implications noted 1.6 Procedures for obtaining clearances including AUTHORITY TO DEAL, Delivered into Home Consumption authorisation and Export Declaration Numbers (EDN) are identified and followed in accordance with the requirements of Customs and related legislation and workplace procedures 1.7 Letters of credit are identified and implications of each noted 1.8 Assistance is sought as required in identifying required documents and to commence process of assessing or completing these documents 1.9 Lodge all documentation if required by legislation (e.g. CITES)
2 Complete documentation to meet legislative and workplace requirements	2.1 Content requirements for each section of the documentation are identified and applied in accordance with the requirements of Customs and related legislation and workplace procedures 2.2 Workplace procedures for authorisations are followed 2.3 Data entry for documents are completed 2.4 Problems arising in completing required documents are identified and assistance sought to resolve these in accordance with the requirements of Customs and related legislation and workplace procedures 2.5 Actions are taken to meet deadlines 2.6 Assistance is sought as required in completing required documents
3 Check documentation to ensure it meets legislative requirements	3.1 Documents are collated and checked before forwarding to supervisor, manager or more senior personnel for checking within designated timelines in accordance with the requirements of Customs and related legislation and workplace procedures 3.2 Declarations are checked to ensure they meet the requirements of Customs and related legislation and workplace procedures 3.3 Letters of credit are checked to ensure they meet commercial, transport and overseas requirements 3.4 Dangerous goods documentation is checked in accordance with the requirements of Customs and related legislation and workplace procedures

ELEMENT	PERFORMANCE CRITERIA
	3.5 Any revisions to documents are finalised and rechecked by self and supervisor, manager or more senior personnel prior to lodgement
4 Lodge documentation for processing	4.1 Documents are forwarded to relevant personnel in accordance with the requirements of Customs and related legislation and workplace procedures
	4.2 Documents are filed, stored and retained in accordance with the requirements of Customs and related legislation and workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian and international standards, codes and regulations relevant to the import and export of cargo and freight
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the completion of import and export documentation
- Focus of operation of work systems, equipment, management and site operating systems for completing import/export cargo and freight documentation
- Problems that may occur when completing import and export documentation and appropriate action that can be taken to resolve the problems
- The Customs Act 1901 and related legislation
- Documentation requirements for the import and export of cargo and freight

Required skills:

- Communicate effectively with others when completing import and export documentation
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures and labels relevant to the import and export of cargo and freight
- Complete and/or assess accuracy of import and export documentation
- Work collaboratively with others when completing import and export documentation
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems when completing and/or assessing

Required skills:

- import and export documentation in accordance with regulatory requirements and workplace procedures
- Monitor work activities in terms of planned schedule
 - Modify activities depending on differing operational contingencies, risk situations and environments
 - Operate and adapt to differences in equipment in accordance with standard operating procedures
 - Select and use relevant communications, computing and office equipment when completing import and export documentation

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of:
 - identifying procedures required for documentation for import/export of goods
 - completing and checking documentation and records to meet relevant Customs legislation and related legislation and workplace requirements
 - providing customer/client service and work effectively with others
 - selecting and using appropriate workplace colloquial and technical language and communication technologies in the workplace context

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is

EVIDENCE GUIDE

- required to:
- relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted in:
- a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- limited or restricted spaces
 - exposed conditions
 - controlled or open environments
- Cargo may include:
- goods with specialist requirements, including temperature controlled goods and dangerous goods
 - personal effects
 - consignments imported/exported by parcels post
 - consignments imported/exported by air freight
 - consignments imported/exported by sea freight
 - wildlife or wildlife products (living or non-living)
 - goods with specialist requirements, including temperature controlled goods and dangerous goods

RANGE STATEMENT

Hazards in the work area may include exposure to:

- chemicals
- dangerous or hazardous substances
- movements of equipment, goods and materials

Consultative processes may involve:

- other employees and supervisors
- suppliers, customers and clients
- relevant authorities and institutions
- management and union representatives
- industrial relations and OH&S specialists
- other maintenance, professional or technical staff

Communication in the work area may include:

- phone
- electronic data interchange (EDI)
- fax
- email
- internet
- radio
- oral, aural or signed communications

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures

Information/documents may include:

- goods identification numbers and codes
- manifests, barcodes, and container identification/serial number
- relevant Customs legislation, related legislation including quarantine legislation, environment and conservation legislation and Australian and international codes of practice and regulations relevant to import/export of cargo
- Australian and international standards, regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances
- dangerous goods declarations and material safety data sheets (MSDSs) (where applicable)
- packing declaration
- timber treatment certificates
- cleanliness certificate
- handling instructions for cargo (especially for dangerous goods or temperature controlled goods)
- commercial invoices
- packing lists
- air waybill (AWB)
- certificates of origin

RANGE STATEMENT

Applicable regulations and legislation may include:

- bills of lading (B/L) or sea waybills
- certificates of marine insurance, other insurance certificates
- quarantine treatment certificate
- transportation and warehousing instructions
- permits from regulatory bodies (Australian and international)
- financial documentation
- other documents specific to goods, country of origin/destination
- operations manuals, job specifications and induction documentation
- manufacturers specifications for equipment
- workplace procedures and policies
- supplier and/or client instructions
- award, enterprise bargaining agreement, other industrial arrangements
- relevant Australian Standards and certification requirements
- quality assurance procedures
- emergency procedures
- relevant Customs and related legislation, including taxation legislation
- relevant standards and codes for the import/export of cargo
- quarantine legislation
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian Marine Orders and the International Maritime Dangerous Goods Code
 - IATA Dangerous Goods by Air regulations
 - Australian and International Explosives Codes
- workplace relations regulations
- equal opportunity legislation
- equal employment opportunity and affirmative action legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA2011A Package goods

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to package goods in accordance with regulatory and workplace requirements including selecting materials, packing and unwrapping products, and labelling packaged products/loads to the required labelling standards. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the packaging of goods.

Work is performed under some supervision generally within a team environment. It involves the application of workplace procedures and regulatory requirements to the packaging of goods as part of work activities in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Select materials and pack and unwrap products	1.1 Packaging specifications and order packaging documentation are correctly interpreted 1.2 Appropriate packaging technology suitable for the goods to be packed is selected 1.3 Packaging materials are identified and matched to specifications 1.4 Work plan ensures materials are used economically and that appropriate packaging is used that minimises loss and damage in transit or storage 1.5 Work is planned in accordance with OH&S requirements 1.6 Completed packed goods are stacked to minimise damage from within and outside
2 Label packaged products/loads	2.1 Workplace labelling standards are identified 2.2 Appropriate goods handling, labelling and other identification symbols are utilised 2.3 Invoices and picking slips are attached (where required) 2.4 Workplace documentation is completed

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian and international codes and regulations relevant to the packaging of goods including the Australian Dangerous Goods Code (ADG Code)
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the packaging of goods
- Focus of operation of work systems, equipment, management and site operating systems for the packaging of goods
- Problems that may occur when packaging goods and appropriate action that can be taken to resolve the problems
- Documentation requirements for the packaging of goods
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when packaging goods
- Read and interpret instructions, procedures and labels relevant to the packaging of goods
- Complete documentation related to work activities when packaging goods
- Work collaboratively with others when packaging goods
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when packaging goods in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events that may occur when packaging goods
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Monitor performance of equipment when packaging goods
- Check operation of packaging equipment in terms of service schedule and standard operating procedures
- Select and use relevant communications, computing equipment and materials when packaging goods
- Estimate the size, shape and special requirements of goods and loads

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:

EVIDENCE GUIDE

unit

- the underpinning knowledge and skills
- relevant legislation and workplace procedures
- other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted:

- in a range of work environments
- by day or night

Customers may be:

- internal or external

Workplaces may comprise:

- large, medium or small worksites

RANGE STATEMENT

- Work may be conducted in:
- restricted spaces
 - exposed conditions
 - controlled or open environments
- Goods may involve:
- special handling, storage and/or packaging requirements, including temperature controlled goods and dangerous goods
- Hazards in the work area may include exposure to:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, customers and clients
 - relevant authorities and institutions
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - radio
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Information/documents may
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock

RANGE STATEMENT

include:

requisitions and bar codes

- codes of practice and regulations relevant to the packaging of goods
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances
- operations manuals, job specifications and induction documentation
- manufacturers specifications for equipment
- workplace procedures and policies
- supplier and/or client instructions
- dangerous goods declarations and material safety data sheets (where applicable)
- award, enterprise bargaining agreement, other industrial arrangements
- relevant Australian standards and certification requirements
- quality assurance procedures
- emergency procedures

Applicable regulations and legislation may include:

- relevant codes and regulations for the packaging of goods
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian and International Explosives Codes
- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- marine orders
- relevant state/territory OH&S and environmental protection legislation
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA2012A Pick and process orders

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to pick and process orders in accordance with workplace requirements including identifying workplace order picking processes, policies and procedures; picking and despatching orders, and recording stock levels. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with relevant codes/regulations and workplace requirements for the picking and processing of orders.

Work is performed under some supervision generally within a team environment. It involves the application of workplace procedures to the picking and processing of orders in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify workplace order picking processes, policies and procedures	1.1 Workplace procedures for order picking and related workplace documentation are interpreted 1.2 Stock allocation and location systems are identified and located 1.3 Appropriate manual handling equipment is selected in accordance with OH&S regulations and workplace procedures
2 Pick and despatch an order	2.1 Work requirements are planned with appropriate equipment and documentation assembled 2.2 Zones of the warehouse which store required products are identified and located 2.3 Pick path is established 2.4 Where required, appropriate pallet(s) for orders are selected and stacked to minimise stock damage and maximise stability 2.5 Products are selected and consolidated 2.6 Products/pallets are located in despatch areas 2.7 Products are assembled to meet workplace schedules 2.8 Orders are consolidated, secured, arranged and placed in storage zones in accordance with the schedule
3 Record stock levels	3.1 Storage areas are checked and stocks are noted for replenishment in accordance with workplace procedures 3.2 Workplace records are completed in accordance with workplace requirements

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Regulations relevant to the picking and processing of orders, including relevant bond, quarantine or other legislative requirements
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the picking and processing of orders
- Focus of operation of work systems, equipment, management and site operating systems for the picking and processing of orders
- Problems that may occur when picking and processing an order and appropriate action that can be taken to resolve the problems

REQUIRED KNOWLEDGE AND SKILLS

- Documentation and record requirements when picking and processing an order
- Equipment used during picking and processing operations and the precautions and procedures that should be followed in its use
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when picking and processing orders
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures, signs and labels relevant to the picking and processing of orders
- Complete documentation related to picking and processing orders
- Identify relevant stock and goods coding and labelling, including ADG and IMDG markings
- Work collaboratively with others when picking and processing orders
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions when picking and processing orders in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events when picking and processing orders
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when picking and processing orders
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use relevant equipment and communications technology when picking and processing orders
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Estimate the size, shape and special requirements of goods/loads

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

- | | |
|---|---|
| Critical aspects for assessment and evidence required to demonstrate competency in this unit | <ul style="list-style-type: none"> • The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying: <ul style="list-style-type: none"> • the underpinning knowledge and skills • relevant legislation and workplace procedures • other relevant aspects of the range statement |
| Context of and specific resources for assessment | <ul style="list-style-type: none"> • Performance is demonstrated consistently over a period of time and in a suitable range of contexts • Resources for assessment include: <ul style="list-style-type: none"> • a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or • access to an appropriate range of relevant operational situations in the workplace • In both real and simulated environments, access is required to: <ul style="list-style-type: none"> • relevant and appropriate materials and equipment, and • applicable documentation including workplace procedures, regulations, codes of practice and operation manuals |
| Method of assessment | <ul style="list-style-type: none"> • Assessment of this unit must be undertaken by a registered training organisation • As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests • Practical assessment must occur: <ul style="list-style-type: none"> • through activities in an appropriately simulated environment at the registered training organisation, and/or • in an appropriate range of situations in the workplace |

Range Statement

RANGE STATEMENT

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- by day or night
 - in a range of work environments
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- limited or restricted spaces
 - exposed conditions
 - controlled or open environments
- Problems that may occur when picking and processing an order include:
- wrong stock is picked
 - wrong carton for order
 - incorrect location
 - damaged stock
 - no stock at location
 - incorrect quantity
 - failing to meet a special order requirement
- Special order requirements may include:
- pricing
 - special packing
 - specific size of carton
 - special categories of stock
- Hazards in the work area may include exposure to:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Consultative processes may involve:
- workplace personnel
 - supervisors and managers
 - customers/clients
 - contractors
 - official representatives
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax

RANGE STATEMENT

- email
 - internet
 - RF communications
 - barcode readers
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes
 - manufacturers specifications for equipment/tools
 - workplace procedures and policies
 - supplier and/or client instructions
 - material safety data sheets
 - codes of practice including the National Standards for Manual Handling and the Industry Safety Code
 - relevant legislation, regulations and related documentation
 - award, enterprise bargaining agreement, other industrial arrangements
 - standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable regulations and legislation may include:
- relevant codes and regulations pertaining to the picking and processing of orders
 - Australian Dangerous Goods Code
 - relevant state/territory OH&S legislation
 - relevant state/territory environmental protection legislation
 - licence, patent or copyright arrangements
 - water and road use and licence arrangements
 - export/import/quarantine/bond requirements
 - workplace relations regulations
 - workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA2014A Use product knowledge to complete work operations

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to use product knowledge to complete work operations in accordance with workplace requirements including identifying products in a subsection of a warehouse or other storage area, examining quality and reporting on products, and using inventory and labelling systems to identify and locate products. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the identification, handling and storage of various categories of products/stock.

Work is performed under some supervision generally within a team environment. It involves the application of product knowledge and an understanding of relevant regulatory requirements to the handling and storage of various types of products/stock as part of work activities in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify products in a subsection of a warehouse or other storage area	1.1 Products are identified against specified criteria in accordance with workplace procedures 1.2 Storage and handling characteristics are identified and applied consistently 1.3 Products are described to internal customers identifying features which may affect location, safety or storage requirements
2 Examine quality and report on products	2.1 Products are inspected in accordance with workplace quality assurance procedures 2.2 Workplace procedures are followed to replace, return or dispose of stock/products which are not useable 2.3 Non-conforming products are recorded/reported in accordance with workplace procedures
3 Use inventory and labelling systems to identify and locate products	3.1 Inventory and labelling systems are used to locate products within the workplace 3.2 Goods are physically located and identified

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian codes and regulations relevant to the products being identified, handled, transported, stacked and/or stored as part of work operations
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the identification, handling, stacking and storage of particular categories of products
- Focus of operation of work systems, equipment, management and site operating systems for the packaging of goods
- Categories or groups of products and the special handling, stacking and storage requirements for each
- Purpose and use of cataloguing and labelling systems
- Strategies to seek out sources of knowledge of products and use this information to inform work
- Types of equipment and storage areas appropriate for different types of goods including perishable, fragile, dangerous, composition/state goods

REQUIRED KNOWLEDGE AND SKILLS

- Documentation requirements including reports and records concerning damaged or contaminated goods
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when handling, transporting and storing products and providing information on products and services
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures, information and signs relevant to the handling, transporting and storing of products and the provision of information on products and services
- Identify containers and goods coding, ADG and IMDG markings and where applicable emergency information panels
- Complete documentation related to work activities
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Adapt to differences in products and services in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Select and use relevant communications, computing and load handling equipment
- Estimate the size, shape and special requirements of goods and loads

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

EVIDENCE GUIDE

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted:

- in a range of work environments
- by day or night

Customers may be:

- internal or external

Workplaces may comprise:

- large, medium or small worksites

Work may be conducted in:

- limited or restricted spaces
- exposed conditions
- controlled or open environments

RANGE STATEMENT

- Goods may involve:
- special handling, location, storage and/or packaging requirements, including temperature controlled goods and dangerous goods
- Inventory systems may be:
- automated
 - manual
 - paper-based
 - computerised
 - microfiche
- Categories or groups of products/stock may include:
- small parts
 - perishable goods
 - overseas export
 - dangerous goods
 - refrigerated products
 - temperature controlled stock
 - fragile goods
- Distinguishing identification criteria for products may include:
- shape
 - size
 - colour
 - distinguishing features
 - codes and product identification/serial numbers
 - labels
 - signs or other documentation
 - locations
- The characteristics of products/stock may include:
- small parts
 - toxicity
 - flammability
 - form
 - weight
 - size
 - state
 - perishability
 - fragility
 - security risk
- Labelling systems may include:
- batch code
 - bar code
 - identification numbering systems
 - serial numbers
 - symbols for safe handling
 - ADG and HAZCHEM Codes
- Communication in the work area
- phone

RANGE STATEMENT

may include:

- electronic data interchange (EDI)
- fax
- email
- internet
- RF systems
- oral, aural or signed communications

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures

Personal protective equipment may include:

- gloves
- safety headwear and footwear
- safety glasses
- two-way radios
- high visibility clothing

Consultative processes may involve:

- other employees and supervisors
- suppliers, customers and clients
- relevant authorities and institutions
- management and union representatives
- industrial relations and OH&S specialists
- other maintenance, professional or technical staff

Hazards in the work area may include:

- chemicals
- dangerous or hazardous substances
- movements of equipment, goods and materials
- oil or water on floor
- a fire or explosion
- damaged packaging or pallets
- debris on floor
- faulty racking
- poorly stacked pallets
- faulty equipment

Information/documents may include:

- goods identification numbers and codes
- manifests, picking slips, merchandise transfers, stock requisitions and bar codes
- codes of practice and regulations relevant to the identification, handling and stacking of goods
- Australian and international regulations and codes of practice for the handling, stacking and transport of dangerous goods and hazardous substances
- operations manuals, job specifications and induction

RANGE STATEMENT

- documentation
- manufacturers specifications for equipment
 - workplace procedures and policies
 - supplier and/or client instructions
 - dangerous goods declarations and material safety data sheets (where applicable)
 - award, enterprise bargaining agreement, other industrial arrangements
 - relevant Australian standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable regulations and legislation may include:
- relevant codes and regulations for the packaging of goods
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian and International Explosives Codes
 - licence, patent or copyright arrangements
 - water and road use and licence arrangements
 - export/import/quarantine/bond requirements
 - marine orders
 - relevant state/territory OH&S and environmental protection legislation
 - workplace relations regulations
 - workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA2021A Despatch stock

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to despatch stock in accordance with workplace requirements including analysing orders to identify work requirements, following workplace order picking processes to prepare goods for despatch, and completing despatch tasks in accordance with workplace procedures and schedules. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with codes/regulations and workplace requirements relevant to the despatch of goods.

Work is performed under some supervision generally within a team environment. It involves the application of regulatory requirements and workplace procedures to despatch operations in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Analyse order to identify work requirements	1.1 Order request and consignment note documentation is interpreted 1.2 Required schedules for despatch are identified 1.3 Product(s) in order are identified 1.4 Workplace and product knowledge is used to plan sequence of work 1.5 Appropriate materials handling equipment is selected within required OH&S regulations and timeframe for the despatch
2 Follow workplace order picking processes to prepare goods for despatch	2.1 Goods for despatch are selected, checking against product knowledge, labels and other identification systems 2.2 Products are sorted, assembled and consolidated 2.3 Orders are secured and placed in storage/despatch zones, in accordance with schedule 2.4 Order is checked against despatch schedule and order form
3 Complete despatch following workplace procedures and schedules	3.1 Workplace records are completed, and labels and appropriate documentation attached 3.2 Load labels and documentation are checked and loading is organised in accordance with workplace procedures and ADG Code (where applicable) 3.3 Final check of load labels and documentation is completed in accordance with requirements 3.4 Transportation requirements are described to driver where appropriate

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Regulations relevant to despatch operations, including the ADG Code and relevant bond, quarantine or other legislative requirements
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the organising of despatch operations
- Focus of operation of work systems, equipment, management and site operating systems for despatching goods
- Problems that may occur when despatching goods and appropriate action that can be taken to

REQUIRED KNOWLEDGE AND SKILLS

resolve the problems

- Documentation and record requirements for despatch operations
- Equipment used during despatch operations and the precautions and procedures that should be followed in its use
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when organising despatch operations
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures and labels relevant to the organising of despatch operations
- Complete documentation related to the organising of despatch operations
- Work collaboratively with others when organising despatch operations
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when organising despatch operations in accordance with regulatory requirements and workplace procedures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in goods and equipment in accordance with standard operating procedures
- Select and use relevant equipment and communications technology when organising despatch operations
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Estimate the size, shape and special requirements of goods and loads

Evidence Guide

EVIDENCE GUIDE

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

- Critical aspects for assessment and evidence required to demonstrate competency in this unit**
- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement
- Context of and specific resources for assessment**
- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
 - Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
 - In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- limited or restricted spaces
 - exposed conditions
 - controlled or open environments
- Goods to be despatched may involve:
- special handling, location, storage and/or packaging requirements, including temperature controlled goods, dangerous goods or hazardous substances
- Problems that may occur when despatching an order include:
- wrong stock is despatched
 - wrong carton for order
 - incorrect location
 - damaged stock
 - no stock at location
 - incorrect quantity
 - failing to meet a special order requirement
 - failing to meet customers delivery requirements
- Special order requirements may include:
- pricing
 - special packing
 - specific size of carton
 - special categories of stock
- Hazards in the work area may include:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax
 - email

RANGE STATEMENT

- internet
 - RF communications
 - barcode readers
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Consultative processes may involve:
- workplace personnel
 - supervisors and managers
 - customers/clients
 - drivers and agents
 - contractors
 - official representatives
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes
 - manufacturers specifications for equipment/tools
 - workplace procedures and policies
 - supplier and/or client instructions
 - dangerous goods declarations and material safety data sheets (where applicable)
 - codes of practice including the National Standards for Manual Handling and the Industry Safety Code
 - relevant legislation, regulations and related documentation including the ADG Code
 - award, enterprise bargaining agreement, other industrial arrangements
 - standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable regulations and legislation may include:
- relevant codes and regulations pertaining to the organising of despatch operations
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:

RANGE STATEMENT

- Australian and International Dangerous Goods Codes
- Australian Marine Orders and the International Maritime Dangerous Goods Code
- IATA Dangerous Goods by Air regulations
- Australian and International Explosives Codes
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA2022A Participate in stocktakes

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to participate in stocktakes in accordance with workplace requirements including preparing for stocktakes, conducting stocktakes, counting stock, identifying stock discrepancies, and completing all required documentation. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the conduct of a stocktake.

Work is performed under some supervision generally within a team environment. It involves the application of product knowledge and an understanding of relevant workplace procedures and regulatory requirements when participating in stocktakes as part of work activities in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for stocktake	1.1 Goods to be counted and appropriate inventory systems are identified 1.2 Required resources including equipment and record keeping systems are identified 1.3 Allocated tasks, zones and work requirements are identified 1.4 Sequence work role is planned in a time effective manner
2 Stocktake and count stock	2.1 Stocktaking and cyclical counts are undertaken in accordance with enterprise policies and procedures 2.2 Inventory data is interpreted 2.3 Inventory data is confirmed to match stock 2.4 Stock levels are accurately counted and documented
3 Identify stock discrepancies	3.1 Discrepancies in type, number and quality of stock are accurately recorded and documented 3.2 Products stored in inappropriate storage locations are relocated and stock records adjusted
4 Complete documentation	4.1 Inventory data is reconciled to match warehouse stock in accordance with company procedures 4.2 Workplace documentation is completed

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian codes and regulations relevant to the conduct of stocktakes
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the conduct of stocktakes
- Focus of operation of work systems, equipment, management and site operating systems for the conduct of stocktakes
- Workplace processes for records management and the production of stocktake reports
- Principles of operation and functions of stocktake systems
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when conducting stocktakes
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures and labels relevant to the conduct of stocktakes
- Complete documentation related to the conduct of stocktakes
- Work collaboratively with others when conducting stocktakes
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may arise when conducting stocktakes in accordance with regulatory requirements and workplace procedures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use relevant communication, computing and office equipment when conducting stocktakes
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources

- Performance is demonstrated consistently over a period

EVIDENCE GUIDE

for assessment

of time and in a suitable range of contexts

- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted:

- in a range of work environments
- by day or night

Customers may be:

- internal or external

Workplaces may comprise:

- large, medium or small worksites

Work may be conducted in:

- restricted spaces
- exposed conditions
- controlled or open environments

RANGE STATEMENT

- Goods may involve:
- special handling, location, storage and/or packaging requirements, including temperature controlled goods and dangerous goods
- Inventory systems may be:
- automated
 - manual
 - paper based
 - computerised
 - microfiche
- Categories or groups of products/stock may include:
- small parts
 - perishable goods
 - overseas export
 - dangerous goods
 - refrigerated products
 - temperature controlled stock
 - fragile goods
- The characteristics of products/stock may include:
- small parts
 - toxicity
 - flammability
 - form
 - weight
 - size
 - state
 - perishability
 - fragility
 - security risk
- Labelling systems may include:
- batch code
 - bar code
 - identification numbering systems
 - serial numbers
 - symbols for safe handling
 - ADG and HAZCHEM Codes
- Hazards in the work area may include:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets

RANGE STATEMENT

- Communication in the work area may include:
- faulty equipment
 - phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - RF systems
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, customers and clients
 - relevant authorities and institutions
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes
 - codes of practice and regulations relevant to the identification, handling and stacking of goods
 - Australian and international regulations and codes of practice for the handling, stacking and transport of dangerous goods and hazardous substances
 - operations manuals, job specifications and induction documentation
 - manufacturers specifications for equipment
 - workplace procedures and policies
 - supplier and/or client instructions
 - dangerous goods declarations and material safety data sheets (where applicable)
 - award, enterprise bargaining agreement, other industrial arrangements
 - relevant Australian standards and certification

RANGE STATEMENT

Applicable regulations and legislation may include:

- requirements
- quality assurance procedures
- emergency procedures
- relevant codes and regulations for the packaging of goods
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian and International Explosives Codes
- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- relevant state/territory OH&S and environmental protection legislation
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA3010A Coordinate goods to bond premises

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to coordinate goods to bond premises in accordance with regulatory and workplace requirements including identifying and listing goods for bonding, arranging transfer of goods to bond store, and preparing and issuing bond lists. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning coordination of goods to bond premises.

Work is performed under some supervision generally within a team environment. It involves the application of workplace procedures and regulatory requirements to the coordination of goods to bond premises as part of work activities in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify and list goods for bonding	<p>1.1 Goods are listed for bonding when not delivered or collected on completion of agreed storage period</p> <p>1.2 Prior to listing for bonding, inspection is arranged with the Australian Customs Service for goods identified as surplus</p> <p>1.3 Goods left after time advertised for collection are listed for bonding in accordance with workplace policy and Australian Customs Service requirements</p>
2 Arrange transfer of goods to bond store	<p>2.1 Arrangements for the transfer of goods to bond store are made in accordance with regulatory requirements and workplace procedures</p> <p>2.2 Carrier is notified of storage or yard location, marks and quantity</p>
3 Prepare and issue bond list	<p>3.1 Bond list is prepared in accordance with workplace requirements and Australian Customs Service regulations</p> <p>3.2 Bond list, endorsed with the relevant information, is issued to carrier</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian and international codes and regulations relevant to the coordination of goods to bond premises
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the coordination of goods to bond premises
- Focus of operation of work systems, equipment, management and site operating systems for coordination of goods to bond premises
- Problems that may occur when coordinating goods to bond premises and appropriate action that can be taken to resolve the problems

Required skills:

- Communicate effectively with others when coordinating the delivery of goods to bond premises
- Read and comprehend simple statements in English

Required skills:

- Read and interpret instructions, procedures and labels relevant to the coordination of goods to bond premises
- Complete documentation when coordinating the delivery of goods to bond premises
- Work collaboratively with others when coordinating the delivery of goods to bond premises
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems when coordinating the delivery of goods to bond premises in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events when coordinating the delivery of goods to bond premises
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Select and use relevant communications, computing and office equipment when coordinating goods to bond premises
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or

EVIDENCE GUIDE

- access to an appropriate range of relevant operational situations in the workplace
 - In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- limited or restricted spaces
 - exposed conditions
 - controlled or open environments
- Hazards in the work area may include exposure to:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, customers and clients

RANGE STATEMENT

- bond store representatives
 - relevant authorities and institutions
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - radio
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Information/documents may include:
- workplace procedures and policies for the coordination of goods to bond store premises
 - supplier and/or client instructions
 - goods identification numbers and codes
 - manifests, bar codes, goods and container identification/serial number
 - agents delivery order and agents program
 - customers clearance
 - quarantine clearance
 - point of MT return/hand-over agreement
 - continuing permission
 - single transaction permissions
 - chief clerks MT delivery program
 - gate pass/VMO clearance stamped
 - bulk run numbers
 - manufacturers specifications for equipment
 - dangerous goods declarations and material safety data sheets (where applicable)
 - relevant legislation, regulations and related documentation

RANGE STATEMENT

Applicable regulations and legislation may include:

- including ADG / IMDG Code
- award, enterprise bargaining agreement, other industrial arrangements
- relevant Australian standards and certification requirements
- quality assurance procedures
- emergency procedures
- relevant codes and regulations pertaining to the coordination of goods to bond premises
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian Marine Orders and the International Maritime Dangerous Goods Code
 - IATA Dangerous Goods by Air regulations
 - Australian and International Explosives Codes
- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- marine orders
- relevant state/territory OH&S and environmental protection legislation
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

A - Handling Cargo/Stock

TLIA3015A Complete receival/despatch documentation

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to complete receival/despatch documentation in accordance with regulatory and workplace requirements including analysing orders to identify work requirements to fill order, following workplace order documentation processes, and finalising documentation in accordance with workplace procedures and any relevant regulatory requirements. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the completion of receival/despatch documentation.

Work is performed under some supervision generally within a team environment. It involves the application of workplace procedures and regulatory requirements to the completion of receival/despatch documentation as part of work activities in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Analyse order to identify work requirements to fill order	1.1 Order request documentation is interpreted 1.2 Product(s) in order are noted and workplace location(s) are identified 1.3 Workplace and product knowledge is used to organise documentation 1.4 Required schedules for order movement are identified and noted where required 1.5 Special aspects of the order such as dangerous/hazardous goods or temperature controlled goods are identified and information on required documentation procedures and relevant regulatory requirements is identified, accessed and interpreted
2 Follow workplace order documentation processes	2.1 Workplace procedures for documentation of an order are identified 2.2 Workplace documentation is completed in accordance with workplace procedures and any relevant regulatory requirements
3 Finalise documentation	3.1 Order is checked against schedule and order form 3.2 Workplace records are completed, and labels and appropriate documentation are attached in accordance with workplace procedures and any relevant regulatory requirements 3.3 Special transportation requirements are identified and conveyed to appropriate personnel 3.4 Where applicable, all required documentation requirements for dangerous goods and hazardous materials are completed in accordance with the relevant regulations and codes

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian and international codes and regulations relevant to the completion of receival/despatch documentation, including the ADG Code and relevant bond, quarantine or other legislative requirements
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the completion of receival/despatch documentation
- Focus of operation of work systems, equipment, management and site operating systems for

REQUIRED KNOWLEDGE AND SKILLS

the receiving and despatch of goods

- Problems that may occur when completing receipt and despatch documentation and appropriate action that can be taken to resolve the problems
- Specifications and standards for the checking and inspection of received and despatched goods
- Documentation requirements for the receipt and despatch of goods
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when completing receipt and despatch documentation
- Read and interpret instructions, procedures and labels relevant to the completion of receipt and despatch documentation
- Complete receipt and despatch documentation
- Identify containers and goods coding, ADG and IMDG markings and where applicable emergency information panels
- Work collaboratively with others when completing receipt and despatch documentation
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems when completing receipt and despatch documentation in accordance with regulatory requirements and workplace procedures
- Monitor work activities in terms of planned schedule
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Select and use relevant computer, communication and office equipment when completing receipt and despatch documentation
- Estimate the size, shape and special requirements of goods and loads

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of

EVIDENCE GUIDE

unit

this unit and include demonstration of applying:

- the underpinning knowledge and skills
- relevant legislation and workplace procedures
- other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted:

- in a range of work environments
- by day or night

Customers may be:

- internal or external

RANGE STATEMENT

- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- limited or restricted spaces
 - exposed conditions
 - controlled or open environments
- Received/despatched goods may involve:
- special handling and storage requirements, including temperature controlled goods, dangerous goods, explosives and hazardous substances
- Problems that may occur when receiving/despatching goods include:
- damaged stock
 - damaged pallets or packaging
 - wrong stock
 - error in paperwork
 - poorly stacked stock
 - incorrect quantity
- Aspects of goods to be checked when receiving/despatching goods may include:
- correct type
 - number
 - condition
 - quality
 - packaging
 - labelling
 - dangerous goods declarations and marking (where applicable)
- Hazards in the work area may include exposure to:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - poorly stacked pallets
 - faulty equipment
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, customers and clients
 - drivers and agents
 - relevant authorities and institutions
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)

RANGE STATEMENT

- fax
 - email
 - internet
 - RF systems
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes
 - codes of practice and regulations relevant to the receiving of goods
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances
 - operations manuals, job specifications and induction documentation
 - manufacturers specifications for equipment
 - workplace procedures and policies
 - supplier and/or client instructions
 - dangerous goods declarations and material safety data sheets (where applicable)
 - award, enterprise bargaining agreement, other industrial arrangements
 - relevant Australian standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable regulations and legislation may include:
- relevant codes and regulations for the receiving of goods
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian Marine Orders and the International

RANGE STATEMENT

Maritime Dangerous Goods Code

- IATA Dangerous Goods by Air Regulations
- Australian and international explosives codes
- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- marine orders
- relevant state/territory OH&S and environmental protection legislation
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field**Competency Field** A - Handling Cargo/Stock

TLIA3016A Use inventory systems to organise stock control

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to use inventory systems to organise stock control in accordance with workplace requirements including identifying inventory and stock control systems in use in the workplace, using re-order procedures to maintain stock levels, organising cyclical stock counts, and reporting discrepancies or variances. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the use of inventory systems to organise stock control.

Work is performed under some supervision generally within a team environment. It involves the application of product knowledge and an understanding of relevant workplace procedures and regulatory requirements when using inventory systems to organise stock control as part of work activities in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify inventory and stock control systems in use in the workplace	1.1 Workplace inventory and stock control equipment, software and systems are identified 1.2 Reasons for common database approach to inventory records and documentation in the warehouse are explained 1.3 Procedures for identification and reporting of discrepancies or variances are identified
2 Use re-order procedures to maintain stock levels	2.1 Stock level maintenance checking is conducted 2.2 Stock is re-ordered to meet stock level maintenance requirements in accordance with workplace policies and procedures 2.3 Data is accurately entered and extracted from the inventory/records system using appropriate workplace procedures
3 Organise cyclical stock counts and report discrepancies or variances	3.1 Process for cyclical stock count is planned and work allocated to team members 3.2 Clear directions on tasks to be performed are given 3.3 Stocktake activities are conducted in accordance with workplace procedures 3.4 Types and causes of records discrepancies are identified 3.5 Procedures for noting and correcting minor discrepancies are used 3.6 Major discrepancies are reported in accordance with workplace procedures 3.7 Workplace documentation is completed
4 Produce reports on record keeping and inventory functions	4.1 Types of reports to be produced from inventory records systems are identified 4.2 Reports are produced in accordance with workplace procedures and relevant regulatory requirements

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian codes and regulations relevant to the organisation of stock control
- Relevant OH&S and environmental protection procedures and guidelines

REQUIRED KNOWLEDGE AND SKILLS

- Workplace procedures and policies for the use of inventory systems to organise stock control
- Focus of operation of inventory systems, equipment, management and site operating systems for the control of stock
- Principles of operation and functions of inventory systems
- Applications of different types of inventory systems and stock management approaches
- Workplace processes for records management and the production of inventory reports
- Principles of operation and functions of inventory systems
- Computer records and documentation requirements for stock control, including forms, checklists and inventory reports
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when using inventory systems to organise stock control
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures and labels relevant to the use of inventory systems for the organisation of stock control
- Complete documentation related to the use of inventory systems to organise stock control
- Work collaboratively with others when using inventory systems to organise stock control
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems when using inventory systems to organise stock control in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Select and use relevant communications, computing and office equipment when using inventory systems to organise stock control

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

- | | |
|---|---|
| Critical aspects for assessment and evidence required to demonstrate competency in this unit | <ul style="list-style-type: none"> • The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying: <ul style="list-style-type: none"> • the underpinning knowledge and skills • relevant legislation and workplace procedures • other relevant aspects of the range statement |
| Context of and specific resources for assessment | <ul style="list-style-type: none"> • Performance is demonstrated consistently over a period of time and in a suitable range of contexts • Resources for assessment include: <ul style="list-style-type: none"> • a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or • access to an appropriate range of relevant operational situations in the workplace • In both real and simulated environments, access is required to: <ul style="list-style-type: none"> • relevant and appropriate materials and equipment, and • applicable documentation including workplace procedures, regulations, codes of practice and operation manuals |
| Method of assessment | <ul style="list-style-type: none"> • Assessment of this unit must be undertaken by a registered training organisation • As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests • Practical assessment must occur: <ul style="list-style-type: none"> • through activities in an appropriately simulated environment at the registered training organisation, and/or • in an appropriate range of situations in the workplace |

Range Statement

RANGE STATEMENT

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- limited or restricted spaces
 - exposed conditions
 - controlled or open environments
- Goods may involve:
- special handling, location, storage and/or packaging requirements, including temperature controlled goods and dangerous goods
- Inventory systems may be:
- automated
 - manual
 - paper-based
 - computerised
 - microfiche
- Categories or groups of products/stock may include:
- small parts
 - perishable goods
 - overseas export
 - dangerous goods
 - refrigerated products
 - temperature controlled stock
 - fragile goods
- The characteristics of products/stock may include:
- small parts
 - toxicity
 - flammability
 - form
 - weight
 - size
 - state
 - perishability
 - fragility
 - security risk
- Labelling systems may include:
- batch code
 - bar code
 - identification numbering systems
 - serial numbers

RANGE STATEMENT

- Hazards in the work area may include:
- symbols for safe handling
 - ADG and HAZCHEM Codes
 - chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - RF systems
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, customers and clients
 - relevant authorities and institutions
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes
 - codes of practice and regulations relevant to the identification, handling and stacking of goods
 - Australian and international regulations and codes of

RANGE STATEMENT

- practice for the handling, stacking and transport of dangerous goods and hazardous substances
- operations manuals, job specifications and induction documentation
 - manufacturers specifications for equipment
 - workplace procedures and policies
 - supplier and/or client instructions
 - dangerous goods declarations and material safety data sheets (where applicable)
 - award, enterprise bargaining agreement, other industrial arrangements
 - relevant Australian standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable regulations and legislation may include:
- relevant codes and regulations for the packaging of goods
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and international dangerous goods codes
 - Australian and international explosives codes
 - licence, patent or copyright arrangements
 - water and road use and licence arrangements
 - export/import/quarantine/bond requirements
 - relevant state/territory OH&S and environmental protection legislation
 - workplace relations regulations
 - workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

A - Handling Cargo/Stock

TLIA3017A Identify products and store to specifications

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to apply product knowledge to the organisation of work operations including identifying and categorising products, matching products to locations based on specified criteria, and assisting individuals to solve stock identification and location problems. Licensing, legislative, regulatory or certification requirements may be applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the identification, handling and storage of various categories of products/stock.

Work is performed under some supervision generally within a team environment. It involves the application of product knowledge and an understanding of relevant regulatory requirements to the organisation of work operations in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify and categorise products	1.1 Products are identified and categorised in terms of specified criteria in accordance with workplace procedures
2 Match products to locations based on specified criteria	2.1 Locations for products are determined based on specified criteria 2.2 Labels, inventory systems and other information sources are used to assist in the identification of products, handling and storage requirements
3 Assist individuals to solve stock identification and location problems	3.1 New stock items are identified and particular product information is brought to the attention of relevant personnel 3.2 Stock queries are predicted and team members are assisted to locate and assimilate information relevant to these products 3.3 Personnel are assisted with routine and non-routine stock enquiries with actions taken to update information of products for relevant personnel 3.4 Personnel are encouraged to maintain and build product knowledge through accessing product information and the application of problem solving and information analysis skills
4 Identify appropriate transfer and handling requirements	4.1 Resources used to transfer different products through the storage zones are identified and evaluated 4.2 Work in receival and despatch areas is supported by identification and reporting of variances 4.3 Stock re-ordering is informed by knowledge of product source, frequency of pick destination (or seasonality) of products and potential for supply problems 4.4 Relevant documentation is completed in accordance with workplace procedures
5 Contribute to continuous improvement	5.1 Knowledge of customer requirements is used to determine work design 5.2 Potential problems are predicted and notified to appropriate personnel 5.3 Opportunities for improvements to own work organisation are identified

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

REQUIRED KNOWLEDGE AND SKILLS

Required knowledge:

- Australian codes and regulations relevant to the workplace activities
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies relevant to the application of product knowledge to the organisation of workplace operations
- Focus of operation of work systems, equipment, management and site operating systems
- Information on various categories or groups of products including their key characteristics and hazards and the special handling, stacking and storage requirements for each
- Product sources, destinations and potential problems
- Re-ordering procedures and just-in-time planning principles
- Requirements for workplace documentation, inventory systems and records
- Sources of product information
- Strategies to seek out sources of knowledge of products and use this information to inform work
- Types of equipment and storage areas appropriate for different types of goods including perishable, fragile, dangerous, composition/state goods
- Documentation requirements including reports and records concerning damaged or contaminated goods
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when organising workplace activities
- Access, read and interpret product information, policies and regulatory requirements relevant to workplace operations
- Complete documentation related to the organisation of work activities
- Work collaboratively with others when organising workplace activities
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may arise when organising workplace activities in accordance with regulatory requirements and workplace procedures
- Use information on products/stock to determine, plan and organise processes used for receipt, storage, goods movement, despatch, stock levels, re-ordering processes
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment

Required skills:

- Operate and adapt to differences in products and services in accordance with standard operating procedures
- Organise and monitor the use of personal protective equipment conforming to industry and OH&S standards
- Select and use relevant communication, computing and office equipment when organising workplace activities

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- As a minimum, assessment of knowledge must be conducted through appropriate assessments using written/practical/oral assessments
- Practical assessment must occur:
 - through activities in an appropriately simulated

EVIDENCE GUIDE

- environment , and/or
- in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Workplace activities being organised may include but are not limited to:
- receipt
 - storage
 - goods/stock movement
 - despatch
 - stock levels
 - re-ordering processes
- Work may be conducted in:
- restricted spaces
 - exposed conditions
 - controlled or open environments
- Goods may involve:
- special handling, location, storage and/or packaging requirements, including temperature controlled goods and dangerous goods
- Modes of transfer may be:
- manual or motorised
- Storage types may include but are not limited to:
- bin/binning systems
 - rack refrigeration/freezers/cold rooms
 - marked floor space
 - containers
 - racks and racking systems
 - block/stacks
 - pallets
- Inventory systems may be:
- automated
 - manual
 - paper-based

RANGE STATEMENT

- Categories or groups of products/stock may include:
- computerised
 - microfiche
 - small parts
 - perishable goods
 - overseas export
 - dangerous goods
 - refrigerated products
 - temperature controlled stock
 - fragile goods
- The characteristics of products/stock may include:
- small parts
 - toxicity
 - flammability
 - form
 - weight
 - size
 - state
 - perishability
 - fragility
 - security risk
- Labelling systems may include but are not limited to:
- batch code
 - bar code
 - identification numbering systems
 - serial numbers
 - symbols for safe handling
 - ADG and HAZCHEM Codes
- Hazards in the work area may include:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet

RANGE STATEMENT

- RF systems
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, customers and clients
 - relevant authorities and institutions
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes, and container identification/serial number
 - codes of practice and regulations relevant to workplace operations
 - Australian and international regulations and codes of practice for the handling, stacking and transport of dangerous goods and hazardous substances
 - operations manuals, job specifications and induction documentation
 - manufacturers specifications for equipment
 - workplace procedures and policies
 - supplier and/or client instructions
 - dangerous goods declarations and material safety data sheets (where applicable)
 - award, enterprise bargaining agreement, other industrial arrangements
 - relevant Australian standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable regulations and
- relevant codes and regulations for the packaging of goods
 - Australian and international regulations and codes of

RANGE STATEMENT

legislation may include:

practice for the handling and transport of dangerous goods and hazardous substances, including:

- Australian and International Dangerous Goods Codes
- Australian and International Explosives Codes
- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- marine orders
- relevant state/territory OH&S and environmental protection legislation
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

A - Handling Cargo/Stock

TLIA3018A Organise despatch operations

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to organise despatch operations in accordance with workplace requirements including planning and organising despatch operations, organising the storage and despatch of stock, and completing all required documentation and records. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with codes/regulations and workplace requirements relevant to the organisation of despatch operations.

Work is performed under some supervision generally within a team environment. It involves the application of regulatory requirements and workplace procedures to the organisation of despatch operations in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and organise despatch operations	1.1 Knowledge of product characteristics and workplace procedures are applied to the analysis of the stock 1.2 Resources including manual handling equipment, employee competencies, storage areas and goods management equipment are identified to match stock characteristics 1.3 Deadlines are scheduled to meet order requirements 1.4 Work processes are planned to meet deadlines
2 Organise the storage and despatch of stock	2.1 Employees, equipment and storage areas are allocated and supervised 2.2 Individuals are informed of work requirements and deadlines 2.3 Work processes are monitored to ensure that resources, both human and equipment, are maintained at productive levels and in accordance with workplace procedures and OH&S requirements 2.4 Discrepancies in stocks are noted and reported in accordance with company procedures
3 Complete documentation	3.1 Required despatch documentation and records are completed in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Regulations relevant to the organising of despatch operations, including the ADG Code and relevant bond, quarantine or other legislative requirements
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the organising of despatch operations
- Focus of operation of work systems, equipment, management and site operating systems for the organising of despatch operations
- Problems that may occur when organising despatch operations and appropriate action that can be taken to resolve the problems
- Documentation and record requirements for despatch operations
- Equipment used during the organisation of despatch operations and the precautions and procedures that should be followed in its use

REQUIRED KNOWLEDGE AND SKILLS

- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when organising despatch operations
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures and labels relevant to the organising of despatch operations
- Complete documentation related to the organising of despatch operations
- Identify relevant stock and goods coding and labelling, including ADG and IMDG markings
- Work collaboratively with others when organising despatch operations
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may arise when organising despatch operations in accordance with regulatory requirements and workplace procedures
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Select and use relevant equipment and communications technology when organising despatch operations
- Estimate the size, shape and special requirements of goods and loads

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the

EVIDENCE GUIDE

demonstrate competency in this unit

requirements of the elements and performance criteria of this unit and include demonstration of applying:

- the underpinning knowledge and skills
- relevant legislation and workplace procedures
- other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted:

- in a range of work environments
- by day or night

RANGE STATEMENT

- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- limited or restricted spaces
 - exposed conditions
 - controlled or open environments
- Goods to be despatched may involve:
- special handling, location, storage and/or packaging requirements, including temperature controlled goods, dangerous goods or hazardous substances
- Problems that may occur when despatching an order include:
- wrong stock is despatched
 - wrong carton for order
 - incorrect location
 - damaged stock
 - no stock at location
 - incorrect quantity
 - failing to meet a special order requirement
 - failing to meet customers delivery requirements
- Special order requirements may include:
- pricing
 - special packing
 - specific size of carton
 - special categories of stock
- Hazards in the work area may include exposure to:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - RF communications
 - barcode readers
 - oral, aural or signed communications

RANGE STATEMENT

- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Consultative processes may involve:
- workplace personnel
 - supervisors and managers
 - customers/clients
 - drivers and agents
 - contractors
 - official representatives
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes
 - manufacturers specifications for equipment/tools
 - workplace procedures and policies
 - supplier and/or client instructions
 - dangerous goods declarations and material safety data sheets (where applicable)
 - codes of practice including the National Standards for Manual Handling and the Industry Safety Code
 - relevant legislation, regulations and related documentation including the ADG Code
 - award, enterprise bargaining agreement, other industrial arrangements
 - standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable regulations and legislation may include:
- relevant codes and regulations pertaining to the organising of despatch operations
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian Marine Orders and the International Maritime Dangerous Goods Code
 - IATA Dangerous Goods by Air Regulations

RANGE STATEMENT

- Australian and international explosives codes
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA3019A Organise receival operations

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to organise receival operations in accordance with workplace requirements including planning and organising receival operations, organising the storage of received stock, and completing all required documentation and records in accordance with workplace procedures and relevant regulatory requirements. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with codes/regulations and workplace requirements relevant to the organisation of receival operations.

Work is performed under some supervision generally within a team environment. It involves the application of regulatory requirements and workplace procedures to the organisation of receival operations in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Plan and organise receival operations	<p>1.1 Knowledge of product characteristics and workplace procedures are applied to the analysis of the stock</p> <p>1.2 Resources including manual handling equipment, employee competencies, storage areas and goods management equipment are identified to match stock characteristics</p> <p>1.3 Deadlines are scheduled to enable receipt of stock in storage zones</p> <p>1.4 Work processes are planned to meet specified deadlines</p>
2 Organise the storage of stock	<p>2.1 Employees, equipment and storage areas are allocated and supervised</p> <p>2.2 Individuals are informed of work requirements and deadlines</p> <p>2.3 Work processes are monitored to ensure that resources, both human and equipment, are maintained at productive levels and in accordance with workplace procedures and OH&S requirements</p> <p>2.4 Discrepancies in stocks are noted and reported in accordance with workplace procedures</p>
3 Complete documentation	<p>3.1 Documentation and records regarding receipt operations are completed and filed/despatched in accordance with workplace procedures and relevant regulatory requirements</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Regulations relevant to the organising of receipt operations, including the ADG Code and relevant bond, quarantine or other legislative requirements
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the organising of receipt operations
- Focus of operation of work systems, equipment, management and site operating systems for the organising of receipt operations
- Problems that may occur when organising receipt operations and appropriate action that can be taken to resolve the problems
- Documentation and record requirements for receipt operations
- Equipment used during the organisation of receipt operations and the precautions and

REQUIRED KNOWLEDGE AND SKILLS

procedures that should be followed in its use

- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when organising receival operations
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures and labels relevant to the organising of receival operations
- Complete documentation related to the organising of receival operations
- Identify relevant stock and goods coding and labelling, including ADG and IMDG markings
- Work collaboratively with others when organising receival operations
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may arise when organising receival operations in accordance with regulatory requirements and workplace procedures
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Select and use relevant equipment and communication technology when organising receival operations
- Estimate the size, shape and special requirements of goods and loads

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

EVIDENCE GUIDE

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted:

- in a range of work environments

RANGE STATEMENT

- by day or night
- Goods to be received may involve:
 - special handling, location, storage and/or packaging requirements, including temperature controlled goods, dangerous goods or hazardous substances
- Problems that may occur when receiving an order include:
 - wrong stock is received
 - damaged stock
 - damaged packaging or pallets
 - incorrect quantity
 - error in paperwork
 - paperwork doesn't match goods
 - delivered late
 - poorly stacked stock
 - incorrect quantity
- Aspects of goods to be checked when goods are received may include:
 - correct type
 - number
 - condition
 - quality
 - packaging
 - labelling
 - dangerous goods declarations and marking (where applicable)
- Hazards in the work area may include exposure to:
 - chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Communication in the work area may include:
 - phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - RF communications
 - barcode readers
 - oral, aural or signed communications
- Depending on the type of
 - company procedures

RANGE STATEMENT

organisation concerned and the local terminology used, workplace procedures may include:

- enterprise procedures
- organisational procedures
- established procedures

Personal protective equipment may include:

- gloves
- safety headwear and footwear
- safety glasses
- two-way radios
- high visibility clothing

Consultative processes may involve:

- workplace personnel
- supervisors and managers
- customers/clients
- drivers and agents
- contractors
- official representatives

Information/documents may include:

- goods identification numbers and codes
- manifests, picking slips, merchandise transfers, stock requisitions and bar codes
- manufacturers specifications for equipment/tools
- workplace procedures and policies
- supplier and/or client instructions
- dangerous goods declarations and material safety data sheets (where applicable)
- codes of practice including the National Standards for Manual Handling and the Industry Safety Code
- relevant legislation, regulations and related documentation including the ADG Code
- award, enterprise bargaining agreement, other industrial arrangements
- standards and certification requirements
- quality assurance procedures
- emergency procedures

Applicable regulations and legislation may include:

- relevant codes and regulations pertaining to the organising of receival operations
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian Marine Orders and the International Maritime Dangerous Goods Code
 - IATA Dangerous Goods by Air regulations
 - Australian and International Explosives Codes

RANGE STATEMENT

- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA3024A Organise warehouse records operations

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to organise warehouse records operations in accordance with workplace requirements including identifying record management databases, storage types and technologies; storing warehouse records; and using record management systems to retrieve information. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements when organising warehouse records operations.

Work is performed under some supervision generally within a team environment. It involves the application of relevant workplace procedures and regulatory requirements to the organisation of warehouse records operations in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify record management databases, storage types and technologies	1.1 Requirements for records operations are identified and defined 1.2 Types of record systems which might meet workplace requirements are identified and reviewed 1.3 Advantages and disadvantages of identified systems are evaluated and noted 1.4 Record management systems are selected in accordance with workplace requirements 1.5 Appropriate action is taken to establish the selected record system in accordance with workplace procedures and operational requirements
2 Store warehouse records	2.1 Warehouse records are collected and consolidated in accordance with workplace procedures 2.2 Records are stored manually and/or electronically as required in accordance with system developers instructions and workplace procedures 2.3 Records are maintained in accordance with workplace procedures
3 Use record management systems to retrieve information	3.1 Responses to requests for information are processed promptly 3.2 Required records are accessed and retrieved in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian codes and regulations relevant to the organisation of warehouse records operations
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the organisation of warehouse records operations
- Focus of operation of record systems, equipment, management and site operating systems for the organisation of warehouse records
- Principles of operation and functions of warehouse records systems
- Principles of operation, functions and applications of different types of records systems
- Requirements for accessibility, security and confidentiality of records
- Computer records and documentation requirements for the organisation of warehouse records

REQUIRED KNOWLEDGE AND SKILLS

operations

- Problems that may occur when organising warehouse records operations and appropriate action that can be taken
- Housekeeping standards procedures required in the workplace
- Site layout

Required skills:

- Communicate effectively with others when organising warehouse records operations
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures and labels relevant to the organisation of warehouse records operations
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the organisation of warehouse records operations
- Work collaboratively with others when organising warehouse records operations
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions when organising warehouse records operations in accordance with regulatory requirements and workplace procedures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Select and use relevant communications, computing and office equipment when organising warehouse records operations

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment

EVIDENCE GUIDE

guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

RANGE STATEMENT

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- restricted spaces
 - exposed conditions
 - controlled or open environments
- Record storage systems may be:
- micro-film
 - computer images
- Storage requirements may include:
- security
 - clean environment
 - computer disks
 - type of document
 - confidentiality
 - accessibility
 - microfilm
 - hard copies
- Hazards in the work area may include:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - oil or water on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - RF systems
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures

RANGE STATEMENT

Personal protective equipment may include:

- gloves
- safety headwear and footwear
- safety glasses
- two-way radios
- high visibility clothing

Consultative processes may involve:

- other employees and supervisors
- record system developers and suppliers
- customers and clients
- relevant authorities and institutions
- management and union representatives
- industrial relations and OH&S specialists
- other maintenance, professional or technical staff

Information/documents may include:

- goods identification numbers and codes
- manifests, picking slips, merchandise transfers, stock requisitions and bar codes
- codes of practice and regulations relevant to the identification, handling and stacking of goods
- Australian and international regulations and codes of practice for the handling, stacking and transport of dangerous goods and hazardous substances
- operations manuals, job specifications and induction documentation
- manufacturers specifications for equipment
- workplace procedures and policies
- supplier and/or client instructions
- dangerous goods declarations and material safety data sheets (where applicable)
- award, enterprise bargaining agreement, other industrial arrangements
- relevant Australian standards and certification requirements
- quality assurance procedures
- emergency procedures

Applicable regulations and legislation may include

- relevant codes and regulations for the packaging of goods
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and international dangerous goods codes
 - Australian and international explosives codes
- relevant Australian standards and certification requirements

RANGE STATEMENT

- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- relevant state/territory OH&S and environmental protection legislation
- workplace relations regulations
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA3026A Monitor storage facilities

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to monitor storage facilities in accordance with workplace requirements including determining site functions and operations; monitoring storage operations in accordance with workplace procedures; and taking appropriate action in response to identified discrepancies, changes to storage requirements, or breaches in operational procedures. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the monitoring of storage facilities.

Work is performed under general supervision. It involves the application of product knowledge and an understanding of relevant regulatory requirements to the monitoring of storage facilities in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Determine site functions and operations	1.1 Layout of storage facilities, work flow and activities undertaken in each zone are identified 1.2 Type of storage facilities, their purpose and (any) associated risk factors are identified 1.3 Inventory lists are accessed through record management system 1.4 Storage separations and co-storage applications are identified
2 Monitor storage operations	2.1 Inventory data is confirmed to match goods/freight and applicable storage requirements 2.2 Storage areas are supervised to ensure movement of personnel and goods/freight are in accordance with workplace procedures 2.3 Storage facilities are checked to ensure appropriate operational capacity 2.4 Integrity of goods/materials are monitored to ensure appropriate quality is maintained 2.5 Discrepancies/changes to storage requirements and/or inventory lists are noted and action undertaken in accordance with workplace procedures 2.6 Appropriate action(s) are initiated in response to breaches of operational procedures or to an emergency/incident 2.7 Operational actions and investigative outcomes are documented in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian codes and regulations, permit and licence requirements relevant to the workplace activities
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies relevant to the monitoring of storage facilities
- Focus of operation of work systems, equipment, management and site operating systems
- Information on various categories or groups of products including their key characteristics and hazards and the special handling, stacking and storage requirements for each
- Types of storage areas and related equipment appropriate for different types of goods including perishable, fragile, dangerous, composition/state goods

REQUIRED KNOWLEDGE AND SKILLS

- Equipment applications, capacities, configurations, safety hazards and control mechanisms
- Requirements for workplace documentation reports and records
- Problems that may occur when monitoring storage facilities and appropriate action that can be taken
- Site layout
- Housekeeping standards and procedures required in the workplace

Required skills:

- Communicate effectively with others when monitoring storage facilities
- Read and interpret instructions, procedures, information and signs relevant to the monitoring of storage facilities
- Complete documentation related to the monitoring of storage facilities
- Work collaboratively with others when monitoring storage facilities
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions when monitoring storage facilities in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events related to the monitoring of storage facilities
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Use information on products and stock to determine, plan and organise processes used for the monitoring of storage facilities
- Select and use relevant communications, computing and office equipment when monitoring storage facilities
- Monitor performance of equipment
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Requirements for work may include:
- restricted spaces
 - site restrictions and procedures
 - use of safety and personal protective equipment
 - communications equipment
 - specialised lifting and/or handling equipment
 - incident/accident breakdown procedures
 - additional gear and equipment
 - noise restrictions
 - hours of operations
 - authorities and permits
- Work may be conducted in:
- restricted spaces
 - exposed conditions
 - controlled or open environments
 - environments involving the movement of equipment, goods, materials and/or vehicular traffic
- Goods may involve:
- special handling, location, storage and/or packaging requirements, including temperature controlled goods and dangerous goods
- Modes of transfer may be:
- manual or motorised
- Storage types may include but are not limited to:
- bin/binning systems
 - rack refrigeration/freezers/cold rooms
 - marked floor space
 - containers
 - racks and racking systems
 - block/stacks
 - pallets
- Inventory systems may be:
- automated
 - manual
 - paper-based
 - computerised
 - microfiche

RANGE STATEMENT

Categories or groups of products/stock may include:

- small parts
- perishable goods
- overseas export
- dangerous goods
- refrigerated products
- temperature controlled stock
- fragile goods

The characteristics of products/stock may include:

- small parts
- toxicity
- flammability
- form
- weight
- size
- state
- perishability
- fragility
- security risk

Labelling systems may include but are not limited to:

- batch code
- bar code
- identification numbering systems
- serial numbers
- symbols for safe handling
- ADG and HAZCHEM Codes

Hazards in the work area may include:

- hazardous or dangerous materials
- contamination of, or from, materials being handled
- noise, light, energy sources
- stationary and moving machinery, parts or components
- service lines
- skills, leakages, ruptures
- dust/vapours
- oil or water on floor
- a fire or explosion
- damaged packaging or pallets
- debris on floor
- faulty racking
- poorly stacked pallets
- faulty equipment

Communication in the work area may include:

- phone
- electronic data interchange (EDI)
- fax

RANGE STATEMENT

- email
 - internet
 - RF systems
 - oral, aural or signed communications
 - company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, customers and clients
 - relevant authorities and institutions
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes
 - codes of practice and regulations relevant to workplace operations
 - Australian and international regulations and codes of practice for the handling, stacking and transport of dangerous goods and hazardous substances
 - operations manuals, job specifications and induction documentation
 - manufacturers specifications for equipment
 - workplace procedures and policies
 - supplier and/or client instructions
 - dangerous goods declarations and material safety data sheets (where applicable)
 - award, enterprise bargaining agreement, other industrial arrangements
 - relevant Australian standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable regulations and
- codes and regulations relevant to the monitoring of storage

RANGE STATEMENT

legislation may include:

- facilities
- Australian and international regulations and codes of practice for the storage of dangerous goods and hazardous substances, including:
 - Australian Dangerous Goods Code
 - Australian Explosives Code
 - licence, patent or copyright arrangements
 - water and road use and licence arrangements
 - export/import/quarantine/bond requirements
 - marine orders
 - relevant state/territory OH&S and environmental protection legislation
 - workplace relations regulations
 - workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

A - Handling Cargo/Stock

TLIA3038A Control and order stock

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to control and order stock for a workplace store in an enterprise/organisation in a transport, distribution, production, hospitality, retail or other relevant industry sector. It specifically covers maintaining stock levels and records, organising and administering stocktakes, identifying stock losses, processing stock orders, and following up orders. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant codes of practice, regulations and workplace procedures for the control and ordering of stock in a workplace store.

Work is performed under general supervision, with some accountability and responsibility for self and others in achieving the prescribed outcomes. It involves the application of routine principles and procedures to efficiently control and order stock in a workplace store.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Maintain stock levels and records	1.1 Stock levels are monitored and maintained at levels prescribed by workplace specifications 1.2 Stock security systems are monitored and adjusted as required 1.3 Stock re-order cycles are maintained, monitored and adjusted as required 1.4 Colleagues are informed of their individual responsibilities in regard to recording of stock 1.5 Stock storage and movement records are maintained in accordance with workplace procedures 1.6 Stock performance is monitored and fast/slow moving items are identified and reported in accordance with workplace procedures
2 Organise and administer stocktakes	2.1 Stocktakes are organised at the appropriate time and responsibilities allocated to staff 2.2 Accurate reports on stocktake data are produced within designated timelines
3 Identify stock losses	3.1 Losses are accurately identified, recorded and assessed against potential loss as forecast on a regular basis 3.2 Identified losses are reported in accordance with workplace procedures 3.3 Avoidable losses are identified and reasons are established, and appropriate solutions are recommended and implemented to prevent future avoidable losses
4 Process stock orders	4.1 Orders for stock are accurately processed in accordance with workplace procedures 4.2 Stock ordering and recording systems are accurately maintained 4.3 Purchase and supply agreements are correctly used and appropriate details recorded 4.4 Negotiated purchase and supply agreements are recorded accurately and filed for retrieval
5 Follow up orders	5.1 Delivery process is monitored to meet agreed deadlines 5.2 Appropriate liaison is undertaken with colleagues and suppliers to ensure continuity of supply 5.3 Routine supply problems are followed up or referred to the appropriate person in accordance with workplace policy 5.4 Stock is distributed in accordance with agreed allocations
6 Complete documentation	6.1 All required records and documentation are completed in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant codes of practice and legislative requirements (for example dangerous goods regulations, health and hygiene regulations, etc.)
- Relevant OH&S and environmental procedures and regulations
- Principles of stock control
- Procedures for the ordering of stock
- Stock control documentation and systems used in workplace stores
- Interpretation of workplace specifications and orders for supplies
- Stock security systems
- Protocols and procedures for liaising with supplier representatives, drivers and colleagues using appropriate technology
- Systems for the completion of relevant records and documentation
- Problems that may occur when controlling and ordering stock and appropriate action that can be taken to resolve the problems
- Contacts and sources of information and documentation needed when controlling and ordering stock
- Site layout
- The purpose and procedures for the use of relevant personal protective equipment
- Customer service policies and procedures

Required skills:

- Communicate effectively with others when controlling and ordering stock
- Read and interpret instructions, procedures and labels relevant to the controlling and ordering of stock
- Complete documentation related to the controlling and ordering of stock
- Work collaboratively with others when controlling and ordering stock
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when controlling and ordering stock in accordance with regulatory requirements and workplace procedures
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and

Required skills:

environments

- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Adapt to differences in stock and systems in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Select and use relevant communication and computing equipment when controlling and ordering stock

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

EVIDENCE GUIDE

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

This unit may apply to:

- any workplace store in an enterprise/organisation in a transport, distribution, production, hospitality, retail or other relevant industry sector (excluding work areas and organisations involving major and/or dedicated warehousing)

Suppliers may be:

- internal or external

Requirements for work may include:

- workplace protocols and procedures
- communications equipment
- workplace operations manuals
- relevant regulations, authorities and permits
- hours of operation
- relevant record keeping requirements
- workplace quality and customer service standards

Stock control and record systems may be:

- manual
- computerised

Stock may include but is not limited to:

- production materials
- packaging materials
- equipment and tools
- office and stationery supplies
- forms, brochures and documents
- vouchers and tickets
- merchandise for sale

RANGE STATEMENT

- Consultative processes may involve:
- linen
 - food and beverage supplies
 - suppliers, representatives and drivers
 - relevant authorities
 - other employees and supervisors
 - management
 - other professional or technical staff
- Communications systems may involve:
- telephone
 - fax
 - email
 - electronic data transfer of information
 - mail
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include but is not limited to:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Documentation/records may include:
- workplace protocols and procedures
 - workplace specifications for the stock concerned
 - relevant regulations
 - supplier instructions
 - operations manuals
 - documentation including order forms, standard letters, etc.
 - induction documentation
 - delivery options
 - relevant Australian and international standards, criteria and certification requirements
 - communications technology equipment, oral, aural or signed communications
 - quality assurance procedures
 - emergency procedures
 - relevant competency standards and training materials
- Applicable procedures and codes may include:
- relevant regulations and codes of practice for receipt and storage of stock concerned
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods

RANGE STATEMENT

and hazardous substances, including:

- Australian and International Dangerous Goods Codes
- Australian and International Explosives Codes
- Australian and international standards and certification requirements
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

A - Handling Cargo/Stock

TLIA3039A Receive and store stock

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to receive and store stock for a workplace store in an enterprise/organisation in a transport, distribution, production, hospitality, retail or other relevant industry sector. It specifically covers taking delivery of stock, storing the received stock, and rotating and maintaining stock in accordance with relevant regulatory and workplace procedures. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant codes of practice, regulations and workplace procedures for the receipt and storage of stock in a workplace store.

Work is performed under general supervision, with some accountability and responsibility for self and others in achieving the prescribed outcomes. It involves the application of routine principles and procedures to safely and efficiently receive and store stock in a workplace store.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Take delivery of stock	<p>1.1 Incoming stock is accurately checked against orders and delivery documentation in accordance with workplace procedures</p> <p>1.2 Variations are accurately identified, recorded and communicated to the appropriate person</p> <p>1.3 Items are inspected for damage, quality, use-by dates, breakages or discrepancies, and records are made in accordance with workplace policy</p>
2 Store stock	<p>2.1 All stock is promptly and safely transported to an appropriate storage area without damage</p> <p>2.2 Stock is stored in the appropriate location within the area and in accordance with workplace security procedures</p> <p>2.3 Appropriate personal protective equipment is correctly used during receipt and storage operations</p> <p>2.4 Stock levels are accurately recorded in accordance with workplace procedures</p> <p>2.5 Stock is labelled in accordance with workplace procedures</p>
3 Rotate and maintain stock	<p>3.1 Stock is rotated, where required, in accordance with workplace policy</p> <p>3.2 Stock is moved using appropriate equipment, if necessary, in accordance with OH&S requirements, relevant regulations and workplace procedures</p> <p>3.3 Quality of stock is checked and reported</p> <p>3.4 Appropriate action is taken where the quality of the stock is found to be outside specified standards</p> <p>3.5 Stock is placed in storage or disposed of in accordance with workplace policy</p>
4 Complete documentation	<p>4.1 All required records and documentation are completed in accordance with workplace procedures</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant codes of practice and legislative requirements (for example dangerous goods)

REQUIRED KNOWLEDGE AND SKILLS

regulations, health and hygiene regulations, etc.)

- Relevant OH&S and environmental procedures and regulations
- Principles of stock control
- Stock control documentation and systems used in workplace stores
- Interpretation of workplace specifications and orders for supplies
- Stock security systems
- Safe lifting and handling procedures
- Protocols and procedures for liaising with supplier representatives, drivers and colleagues using appropriate technology
- Code of practice for working collaboratively with others
- Systems for the completion of relevant records and documentation
- Problems that may occur when receiving and storing stock and appropriate action that can be taken to resolve the problems
- Contacts and sources of information and documentation needed when receiving and storing stock
- Site layout
- The purpose and procedures for the use of relevant personal protective equipment
- Customer service policies and procedures
- Procedures for operating electronic communications equipment

Required skills:

- Communicate effectively with others when receiving and storing stock
- Read and interpret instructions, procedures and labels relevant to receiving and storing stock
- Complete documentation related to receiving and storing stock
- Work collaboratively with others when receiving and storing stock
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when receiving and storing stock in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures

Required skills:

- Select and use required personal protective equipment conforming to industry and OH&S standards
- Select and use relevant communication and computing equipment when receiving and storing stock

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:

EVIDENCE GUIDE

- through activities in an appropriately simulated environment at the registered training organisation, and/or
- in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

This unit may apply to:

- any workplace store in an enterprise/organisation in a transport, distribution, production, hospitality, retail or other relevant industry sector (excluding work areas and organisations involving major and/or dedicated warehousing)

Suppliers may be:

- internal or external

Requirements for work may include:

- workplace protocols and procedures
- communications equipment
- workplace operations manuals
- relevant regulations, authorities and permits
- hours of operation
- relevant record keeping requirements
- workplace quality and customer service standards

Stock control and record systems may be:

- manual
- computerised

Stock may include but is not limited to:

- production materials
- packaging materials
- equipment and tools
- office and stationery supplies
- forms, brochures and documents
- vouchers and tickets
- merchandise for sale
- linen
- food and beverage supplies

Consultative processes may involve:

- suppliers, representatives and drivers
- relevant authorities
- other employees and supervisors

RANGE STATEMENT

- management
 - other professional or technical staff
- Communications systems may involve:
- telephone
 - fax
 - email
 - electronic data transfer of information
 - mail
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include but is not limited to:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Documentation/records may include:
- workplace protocols and procedures
 - workplace specifications for the stock concerned
 - relevant regulations
 - supplier instructions
 - operations manuals
 - documentation including order forms, standard letters, etc.
 - induction documentation
 - delivery options
 - relevant Australian and international standards, criteria and certification requirements
 - communications technology equipment, oral, aural or signed communications
 - quality assurance procedures
 - emergency procedures
 - relevant competency standards and training materials
- Applicable procedures and codes may include:
- relevant regulations and codes of practice for receipt and storage of stock concerned
 - Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian and International Explosives Codes
 - Australian and international standards and certification requirements

RANGE STATEMENT

- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIA4025A Regulate temperature controlled stock

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to regulate temperature controlled stock in accordance with workplace requirements including identifying goods requiring temperature control, monitoring temperature of goods, and identifying and rectifying any identified problems in accordance with workplace procedures. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations and workplace requirements concerning the regulation of temperature controlled stock.

Work is performed under some supervision generally within a team environment. It involves the application of product knowledge and an understanding of relevant regulatory requirements to the regulation of temperature controlled stock in the warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify goods requiring temperature control	1.1 Goods requiring temperature control are identified 1.2 Temperature for short- term and long-term storage is selected to match product type 1.3 Upper and lower limits for temperature control are identified 1.4 Storage separations and co-storage applications are identified for products
2 Monitor temperature	2.1 Appropriate methods for determining temperature of goods are identified 2.2 Storage areas are monitored for temperatures within range for products 2.3 Products are monitored to ensure compliance with temperature storage requirements 2.4 Short-term storage times are identified for transit goods
3 Identify and rectify problems	3.1 Implications of incorrect temperature are identified 3.2 Damaged goods are identified and appropriate action is undertaken in accordance with enterprise procedures 3.3 Causes of out-of-temperature range are identified 3.4 Appropriate personnel are notified for problem rectification 3.5 Goods handling procedures for maintenance of temperature control are identified and implemented

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Australian codes and regulations relevant to the regulation of temperature controlled stock
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the regulation of temperature controlled stock
- Focus of operation of work systems, equipment, management and site operating systems for the regulation of temperature controlled stock
- Special handling, stacking and storage requirements for temperature controlled stock
- Procedures for pre-cooling and snap freezing
- Problems that can occur when regulating temperature controlled stock and appropriate action that can be taken

REQUIRED KNOWLEDGE AND SKILLS

- Hazards when regulating and working with temperature controlled stock and appropriate action to control the risks involved
- Documentation requirements including reports and records concerning damaged or contaminated goods
- Housekeeping standards procedures required in the workplace
- Site layout

Required skills:

- Communicate effectively with others when regulating temperature controlled stock
- Read and comprehend simple statements in English
- Read and interpret instructions, procedures and labels relevant to the regulation of temperature controlled stock
- Complete documentation related to the regulation of temperature controlled stock
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when regulating temperature controlled stock
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions when regulating temperature controlled stock in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unplanned events when regulating temperature controlled stock
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in stock and equipment in accordance with standard operating procedures
- Select and use relevant equipment, processes and procedures
- Check refrigeration equipment operation in terms of maintenance schedule and standard operating procedures
- Select and implement corrective actions to maintain temperature levels
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

- Critical aspects for assessment and evidence required to demonstrate competency in this unit**
- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement
- Context of and specific resources for assessment**
- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
 - Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
 - In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
 - short -term and/or long-term temperature controlled areas
- Work may be conducted in:
- restricted spaces
 - exposed conditions
 - controlled or open environments
- Procedures for pre-cooling and snap freezing may include:
- automated
 - spraying with liquid nitrogen
 - immersion in a very cold refrigerant
 - freezing in moving air at less than -30oC
 - plate freezer with very low refrigerant temperatures
- Hazards in the work area may include:
- contamination of, or from, materials being handled
 - noise, light, energy sources
 - service lines
 - spills, leakages, ruptures
 - cold pipes and chilling equipment
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
 - dust/vapours
 - oil, water or ice on floor
 - a fire or explosion
 - damaged packaging or pallets
 - debris on floor
 - faulty racking
 - poorly stacked pallets
 - faulty equipment
- Hazard management is consistent with:
- the principle of hierarchy of control with elimination, substitution, isolation and engineering control measures being selected before safe working practices and personal protective equipment
- Requirements for work may include:
- site restrictions and procedures
 - use of safety and personal protective equipment
 - communications equipment
 - specialised lifting and/or handling equipment
 - incident/accident breakdown procedures

RANGE STATEMENT

- additional gear and equipment
 - noise restrictions
 - hours of operations
 - authorities and permits
- Communication in the work area may include:
- phone
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - radio
 - RF systems
 - oral, aural or signed communications
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, customers and clients
 - relevant authorities and institutions
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves and protective clothing
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Information/documents may include:
- goods identification numbers and codes
 - manifests, picking slips, merchandise transfers, stock requisitions and bar codes
 - codes of practice and regulations relevant to the identification, handling and stacking of goods
 - operations manuals, job specifications and induction documentation
 - manufacturers specifications for equipment
 - workplace procedures and policies
 - supplier and/or client instructions
 - award, enterprise bargaining agreement, other industrial arrangements
 - relevant Australian standards and certification

RANGE STATEMENT

- Applicable regulations and legislation may include:
- requirements
 - quality assurance procedures
 - emergency procedures
 - relevant codes and regulations for the regulation of temperature controlled goods
 - relevant state/territory OH&S and environmental protection legislation
 - water and road use and licence arrangements
 - export/import/quarantine/bond requirements
 - workplace relations regulations
 - workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field A - Handling Cargo/Stock

TLIB2009A Check conveyor operational status

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to check conveyor operational status in accordance with workplace requirements, including inspecting conveyor system and work area, checking equipment operational capability, and identifying and assessing faults and reporting results of inspection and testing in accordance with workplace procedures and relevant regulatory requirements. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with codes/regulations and workplace requirements relevant to the checking and assessment of the operational capability of equipment.

Safety checks and equipment tests are performed under limited supervision.

Work involves the application of regulatory requirements and workplace procedures to the checking and assessment of the operational capability of equipment in the stevedoring, transport, warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Inspect conveyor system and work area	<p>1.1 The conveyor equipment is checked prior to start-up in accordance with workplace procedures, manufacturers safety checks and specifications to ensure it is free from damage and obstructions that may limit operational capability</p> <p>1.2 Work area is checked to ensure that it is safe and appropriate for the required task</p>
2 Check equipment operational capability	<p>2.1 Conveyors are inspected after start-up in accordance with manufacturers specifications and workplace inspection specifications and procedures</p> <p>2.2 Warning systems are checked for operational effectiveness</p> <p>2.3 Records are checked to determine maintenance history and requirements and goods carried</p>
3 Identify, assess faults and report results of inspection and testing	<p>3.1 Faults are identified and assessments made of the potential effect on the operation of the equipment for the required work, and details forwarded to relevant personnel in accordance with workplace procedures</p> <p>3.2 Accurate reporting of the results of the inspection and testing is kept in accordance with regulatory requirements, workplace policy and industry guidelines</p> <p>3.3 Clear reference is made to any items which may affect the future safety/operation of the equipment</p> <p>3.4 Conveyor system is continually monitored for safe and efficient operation</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Regulations relevant to the checking and assessing of the operational capability of conveyor, including, where relevant, the ADG Code and relevant bond, quarantine or other legislative requirements
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the checking and assessing of the operational capability of conveyor
- Focus of operation of work systems, equipment, management and site operating systems for the checking and assessing of the operational capability of conveyor

REQUIRED KNOWLEDGE AND SKILLS

- The purpose, characteristics, capabilities, requirements and limitations of the conveyor
- Conveyed materials' potential for toxicity, reactivity, material grade, type and purpose including information from relevant material data safety sheets and ADG Code documentation (where applicable)
- Function and principles of operation of belt cleaning systems
- Tools and equipment used during the checking and assessing of the operational capability of conveyor and the precautions and procedures that should be followed in their use
- Problems that may occur when checking and assessing the operational capability of conveyor and appropriate action that can be taken to resolve the problems
- Operational safety requirements for the conveyor concerned
- Documentation and record requirements
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when checking and assessing the operational capability of a conveyor
- Read and interpret instructions, procedures, information and labels relevant to the checking and assessment of the operational status of a conveyor
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the checking and assessment of the operational status of a conveyor
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when checking and assessing the operational capability of a conveyor
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may be identified when checking and assessing the operational capability of a conveyor in accordance with regulatory requirements and workplace procedures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures

Required skills:

- Select and use required personal protective equipment conforming to industry and OH&S standards
- Monitor performance of conveyor equipment
- Service conveyor equipment in terms of maintenance schedule and standard operating procedures

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests

EVIDENCE GUIDE

- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- | | |
|---|---|
| Work may be conducted: | <ul style="list-style-type: none"> • in a range of work environments • by day or night |
| Customers may be: | <ul style="list-style-type: none"> • internal or external |
| Workplaces may comprise: | <ul style="list-style-type: none"> • large, medium or small worksites |
| Work may be conducted in: | <ul style="list-style-type: none"> • limited or restricted spaces • exposed conditions • controlled or open environments |
| Purposes of conveyor checks/inspections are: | <ul style="list-style-type: none"> • to ensure that the conveyor and its safety devices and warning systems are operational, are in accordance with specifications, and are free from faults that may prejudice safety or limit operational capability |
| Conveyor may be enclosed or exposed, above or underground. Conveyor belt construction and materials may vary. Types of conveyors may include: | <ul style="list-style-type: none"> • buckets • rollers • air slides • drag chains • gravity systems |
| Aspects of conveyor equipment covered by workplace inspection specifications and procedures may include but is not limited to: | <ul style="list-style-type: none"> • belt surface and edges • frame • idlers • motive power source • tensions • tracking • speed • guides |
| Checks may include but are not | <ul style="list-style-type: none"> • visual checks in accordance with manufacturers |

RANGE STATEMENT

limited to:

instructions

- monitoring of operational performance
- service checks in accordance with manufacturers instructions
- tests and checks of safety devices and warning indicators in accordance with workplace and regulatory requirements
- checks on adjustments against specifications
- checks of readings on gauges and monitors against specifications

Records/results of checks may include:

- details of out-of-performance indications
- details of faulty equipment or specific components
- details of action taken
- results of checks/tests
- details of repair and maintenance work to be undertaken

Requirements for work may include:

- site restrictions and procedures
- use of safety and personal protective equipment
- communications equipment
- specialised lifting and/or handling equipment
- incident breakdown procedures
- additional gear and equipment
- noise restrictions
- hours of operations
- authorities and permits

Hazards in the work area may include exposure to:

- chemicals and fumes
- dangerous or hazardous substances
- stationary and moving machinery, goods, materials and vehicular traffic
- contamination of, or from, materials being handled
- a fire or explosion
- service lines
- spills, leakages and ruptures
- dust/vapours
- faulty equipment/tools

Consultative processes may involve:

- workplace personnel
- supervisors and managers
- equipment manufacturers
- site visitors
- contractors
- official representatives

Dependent of the type of

- company procedures

RANGE STATEMENT

organisation concerned and the local terminology used, workplace procedures may include:

- enterprise procedures
- organisational procedures
- established procedures

Personal protective equipment may include:

- gloves
- safety headwear and footwear
- safety glasses
- two-way radios
- respirators and fume masks
- protective clothing
- high visibility clothing

Communication in the work area may include:

- phone
- fax
- email
- internet
- RF communications
- barcode readers
- oral, aural or signed communications

Information/documents may include:

- workplace procedures and policies for the checking and assessment of the equipment concerned
- manufacturers specifications for equipment/tools
- equipment identification labels, barcodes and serial numbers
- supplier and/or client instructions
- relevant OH&S requirements and policies
- relevant Australian standards and certification requirements
- material safety data sheets where applicable
- codes of practice including the National Standards for Manual Handling and the Industry Safety Code
- relevant legislation, regulations and related documentation including the ADG Code
- award, enterprise bargaining agreement and other industrial arrangements
- quality assurance procedures
- emergency procedures

Applicable regulations and legislation may include:

- relevant codes and regulations pertaining to the checking and operation of the conveyor system concerned including the ADG Code where applicable
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- relevant Australian standards and certification

RANGE STATEMENT

requirements

- licence, patent or copyright arrangements
- water and road use and licence arrangements
- export/import/quarantine/bond requirements
- workplace relations regulations including equal opportunity, equal employment opportunity and affirmative action legislation
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

B - Equipment Checking and Maintenance

TLIC2041A Operate self-propelled equipment on track

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to operate self-propelled equipment on track in accordance with safeworking and regulatory requirements and workplace procedures. It includes performing pre-operational and post-operational checks, operation of the equipment, and the completion of required documentation. It encompasses the operation of all self-propelled equipment, on track including road/rail equipment operated in rail mode. Licensing or certification requirements may be applicable to this unit.

Application of the Unit

Application of the Unit

Persons achieving competence in this unit will need to fulfil the applicable legislated rail safety requirements including acts and regulations from each state and territory together with any nationally approved compliance codes and/or guidelines.

Work is performed with some supervision, generally within a team environment. It involves the application of routine operational principles and procedures to operate self-propelled equipment on track as part of workplace activities across a variety of operational contexts within the Australian rail system.

Operators of self-propelled equipment on track may need to have fulfilled licence or certification requirements for the type of equipment being used.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Perform pre-operational equipment checks	1.1 Basic pre-operational equipment checks are conducted as per manufacturers specifications or local maintenance schedules 1.2 Service books are checked and completed accurately as required 1.3 Deficiencies with equipment are identified and rectified in accordance with workplace procedures 1.4 Relevant persons are notified of problems and/or documentation completed
2 Operate equipment	2.1 Equipment is placed on track and removed from track where applicable 2.2 Equipment is driven on track 2.3 Equipment is set up for work and prepared for travel after work 2.4 Equipment is operated in a safe and efficient manner in accordance with manufacturers instructions and workplace procedures 2.5 Equipment is operated with due regard for prevailing operating conditions to ensure safe working conditions and minimise potential accidents 2.6 Equipment is operated to achieve the outcome and quality of work in accordance with the workplace standards and procedures 2.7 Warning systems are monitored and responded to appropriately during operation to maintain correct functionality of equipment 2.8 Equipment is left stored in appropriate manner and location to ensure security and protection of equipment
3 Perform post-operational equipment procedures	3.1 Post-operational equipment checks are conducted as per manufacturers specifications or local maintenance schedules to identify defects and maintenance requirements 3.2 Deficiencies with equipment are identified and rectified in an appropriate manner to maintain correct functionality of equipment 3.3 Relevant persons are notified of problems and/or documentation is completed in accordance with instructions and the relevant codes of practice
4 Complete documentation	4.1 Service books are checked and completed accurately 4.2 Required documentation is completed in a timely, accurate and complete manner in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant safety, OH&S and environmental procedures and regulations
- Servicing schedules and procedures for pre- and post-operational checks of self-propelled equipment
- Equipment and materials for use when conducting pre- and post-operational checks of self-propelled equipment
- Components of self-propelled equipment and their applications
- Workplace procedures for the operation of self-propelled equipment
- Problems that may occur during the operation of self-propelled equipment, and action that can be taken to report or resolve the problems
- Setting up requirements in preparation for work
- Hazards that may exist when setting up and operating self-propelled equipment on track, and ways of controlling the risks involved
- Types of self-propelled equipment and their applications
- Technical specifications and manuals
- Impact of machine operation on track condition and geometry
- Defects that can occur in self-propelled equipment, and related action that should be taken
- Emergency procedures
- Local authority procedures

Required skills:

- Communicate effectively with others when operating self-propelled equipment on track
- Read and interpret instructions, procedures, information and signs relevant to the operation of self-propelled equipment on track
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to work activities
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when operating self-propelled equipment on track
- Promptly report and/or rectify any identified problems, faults or malfunctions when operating self-propelled equipment on track in accordance with regulatory requirements and workplace procedures
- Plan and organise work
- Implement contingency plans for unexpected events when operating self-propelled equipment on track
- Apply precautions and required action to minimise, control or eliminate hazards that may exist

Required skills:

during work activities

- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment
- Identify, select and use tools and equipment
- Drive self-propelled equipment on track (for which certificated and/or licensed)

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement
- Assessment must include exercises which demonstrate competent performance of the following in a range of situations:
 - performing pre- and post-operational equipment checks
 - operating self-propelled equipment on track in travel and work mode

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or

EVIDENCE GUIDE

- access to an appropriate range of relevant operational situations in the workplace
 - In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Operations may be conducted:
- by day or night
 - in all weather conditions
- Work may be conducted in:
- exposed conditions
 - controlled or open environments
- Work may involve:
- exposure to chemicals, and dangerous or hazardous substances
 - movements of equipment, materials and vehicles
- Equipment may include:
- basic mechanical/hydraulic self-propelled equipment, including:
 - jacks
 - borers
 - pullers
 - (rail-mounted) lubricators
 - winches

RANGE STATEMENT

- tampers
 - rail adjusters
 - ballast scarifiers
 - equipment with multiple functions, including: ballast regulators, cranes, sleeper renewer, gantry, sleeper laying frame, disposal and distribution wagons
 - complex self-propelled equipment, including:
 - tamper liners
 - track laying machines
 - rail-mounted lubrication vehicles
 - rail planers
 - rail grinders
 - undercutters
 - ballast cleaning machines
 - ballast screening and collection units
 - track geometry recording and detection cars
 - internal or external personnel from other work areas
- Liaison may include:
- two-way radios
- Communication equipment/systems may include:
- radio headsets
 - telephones/mobile phones
 - agreed audible or hand signal
- Information may be provided:
- electronically
 - in writing, via forms/documents
 - orally, via face-to-face communications
- Safety and personal protective equipment may include:
- high visibility clothing
 - hearing protection
 - gloves
 - sunscreen
 - sunglasses
 - safety glasses
 - insect repellent
 - safety headwear
 - safety footwear
 - portable radios/mobile phones
 - hand lamps
 - flags
 - safety devices
- Depending on the type of organisation concerned and the
- company procedures
 - enterprise procedures

RANGE STATEMENT

local terminology used, workplace procedures may include:

- organisational procedures
- established procedures

Information/documents may include:

- operational instructions, policies and workplace procedures
- relevant log or record book
- maintenance notices, records and requests
- local authority regulations and procedures
- technical instructions
- manufacturers or workplace equipment operation manuals
- emergency procedure manuals
- two-way radio/mobile phone operation procedures
- information provided by other workplace personnel
- work orders
- QA plans, data and document control
- conditions of service, legislation and industrial agreements including workplace agreements and awards
- legislated rail safety requirements including acts and regulations from each applicable state and territory together with any nationally approved compliance codes and/or guidelines
- relevant Australian Standards and related requirements
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation

Applicable procedures and codes may include:

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

C - Vehicle Operation

TLID1001A Shift materials safely using manual handling methods

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to shift loads using manual handling methods, including assessing the risks associated with relocating the load, planning the relocation process and carrying out the relocation in accordance with the plan. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant OH&S regulations concerning the manual handling and movement of loads.

Work is performed under some supervision generally within a team environment.

Work involves the application of the basic principles for the safe manual handling techniques and movement of loads when shifting materials using manual handling methods as part of day-to-day work.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Assess risks associated with the relocation of the load	<ul style="list-style-type: none">1.1 Products, goods or materials to be relocated are identified and assessed for the appropriate method of relocation1.2 Locations for storage are determined and potential routes to be followed are identified1.3 Effect of load relocation on original load base is predicted1.4 Points of balance are estimated1.5 Required clearances are compared to available space and adjustments are made1.6 Effects of moving contents which may be loose, liquid, dangerous or hazardous are considered1.7 Potential risks in route(s) which may be followed are considered1.8 Risks to self are identified arising from the required lifting, load carrying, set down or movement of the goods1.9 Manual handling procedures for lifting, lowering and carrying, pushing and pulling are identified1.10 Team lifting processes are considered for application1.11 Appropriate personal protective equipment is worn1.12 Size to weight ratio of items to be manually handled are identified
2 Plan load relocation	<ul style="list-style-type: none">2.1 Relocation of the load is planned consistent with the code of practice for manual handling2.2 Process for relocating load is proposed including predicting and planning for potential difficulties2.3 Proposed process is checked against code of practice and workplace procedures for compliance
3 Relocate load	<ul style="list-style-type: none">3.1 Actions for lifting, lowering and carrying, pulling and pushing a load are in accordance with workplace procedures and OH&S requirements3.2 Applications appropriate for team relocation of load are identified3.3 Team lifting tasks are coordinated3.4 Planned process and route are followed3.5 Relocated materials are set down without damage to goods, personnel or equipment and checked for stability3.6 Relocation is checked to see that it meets work requirements, with any variance(s) reported

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant OH&S procedures and guidelines concerning the manual lifting and movement of loads
- Risks when manually lifting and handling materials and goods and related precautions to control the risk, including: the load on the spine during lifting; controlled actions on a movement during lifting; rotation and side movement of the spine during lifting; postures and positions during lifting; work layout; the type, weight and position of the load; frequency of shifting operations; distance over which load is to be shifted; and time allowed for the shifting of the load
- Workplace procedures and policies for manual handling
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles

Required skills:

- Communicate effectively with others when manually lifting and handling materials and goods
- Read and interpret instructions, procedures and information relevant to the manual lifting and handling of materials and goods
- Interpret and follow operational instructions and prioritise work
- Work collaboratively with others when manually lifting and handling materials and goods
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may arise when manually lifting and handling materials and goods in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected situations that may occur when manually lifting and handling materials and goods
- Apply precautions and required action to minimise, control or eliminate risks that may exist when manually lifting and handling materials and goods
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in loads and materials in accordance with standard operating

Required skills:

procedures

- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of:
 - applying the underpinning knowledge and skills
 - interpreting manual handling risks
 - using correct manual handling practices
 - applying relevant legislation and workplace procedures

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- As a minimum, assessment of knowledge must be conducted through appropriate assessments using written/practical/oral assessments
- Practical assessment must occur:
 - through activities in an appropriately simulated

EVIDENCE GUIDE

- environment, and/or
- in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- | | |
|---|---|
| The shifting operations may be conducted: | <ul style="list-style-type: none">• in a range of work environments• by day or night |
| Customers may be: | <ul style="list-style-type: none">• internal or external |
| Workplaces may comprise: | <ul style="list-style-type: none">• large, medium or small worksites |
| Work may be conducted in: | <ul style="list-style-type: none">• restricted spaces• exposed conditions• controlled or open environments |
| Materials to be shifted may include: | <ul style="list-style-type: none">• goods• large luggage items• baggage items• equipment and tools• cleaning materials• components and parts of vehicles and equipment such as tyres, batteries, lifting gear, etc.• materials used in the course of work such as drums of fuel, raw materials, packaging, etc. |
| Loads to be shifted may be: | <ul style="list-style-type: none">• irregularly shaped• packaged or unpackaged• labelled or unlabelled |
| Hazards in the work area may include exposure to: | <ul style="list-style-type: none">• chemicals• dangerous or hazardous substances• movements of equipment, goods and materials• weight of items being handled |
| Personnel in the work area may include: | <ul style="list-style-type: none">• workplace personnel• site visitors• contractors• official representatives |

RANGE STATEMENT

Communication in the work area may include:

- phone
- electronic data interchange
- fax
- email
- internet
- radio
- oral, aural or signed communications

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures

Personal protective equipment may include:

- gloves
- safety headwear and footwear
- safety glasses
- two-way radios
- high visibility clothing

Information/documents may include:

- goods identification numbers and codes
- manifests, bar codes, goods and container identification
- manufacturers specifications for equipment/tools
- workplace procedures and policies
- supplier and/or client instructions
- material safety data sheets
- codes of practice including the National Standards for Manual Handling and the Industry Safety Code
- relevant legislation, regulations and related documentation
- award, enterprise bargaining agreement, other industrial arrangements
- standards and certification requirements
- quality assurance procedures
- emergency procedures

Applicable regulations and legislation may include:

- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- workplace relations regulations
- workers compensation regulations
- licence, patent or copyright arrangements
- dangerous goods and air freight regulations
- export/import/quarantine/bond requirements
- marine orders

Unit Sector(s)

Not Applicable

Competency Field

Competency Field D - Load Handling

TLID1002A Shift a load using manually-operated equipment

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to shift loads using manually-operated mechanical equipment. It includes assessing the risks associated with relocating the load, planning the relocation process, carrying out the relocation with the aid of the equipment in accordance with the plan, and refurbishing equipment and worksite. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant OH&S regulations concerning the shifting and movement of loads using manually-operated equipment.

Work is performed under some supervision generally within a team environment. It involves the application of the basic principles for the safe shifting of loads using manually-operated equipment.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Assess risks associated with the relocation of the load	<ul style="list-style-type: none">1.1 Products, goods or materials to be relocated are identified and assessed for the appropriate method of relocation1.2 Location for storage is determined1.3 Routes to be followed are identified1.4 Points of balance are estimated1.5 Effect of moving contents which may be loose, liquid, dangerous or hazardous are considered1.6 Potential risks in route(s) which may be followed are considered1.7 Lifting equipment to minimise potential risks is identified1.8 Appropriate personal protective equipment is worn1.9 Tools, load shifting equipment and other materials are selected, checked for serviceability and any defects are reported to the supervisor
2 Plan load relocation	<ul style="list-style-type: none">2.1 Load is examined to determine condition, length, bulk, weight2.2 Load shifting equipment is selected in accordance with workplace procedures2.3 Safe procedures for using lifting equipment are identified, including the calculation of Safe Working Load (SWL) and/or Working Load Limit (WLL) for weight of goods to be moved2.4 Process for relocating load is proposed including predicting and planning for potential difficulties2.5 Proposed process is checked against relevant code of practice and workplace procedures for compliance2.6 Lifting equipment and accessories are checked for safe operation in accordance with manufacturers instructions and workplace procedures2.7 Personal protective equipment is selected and worn in accordance with OH&S requirements
3 Relocate load	<ul style="list-style-type: none">3.1 Any unsafe equipment is reported to appropriate personnel in accordance with workplace procedures3.2 Load is broken down, where applicable, to allow handling and moving a number of single items to ensure the maximum weight of 500 kg is not exceeded3.3 Mechanical aids and field machines are constructed, when required, by the approved shifting method, so that the load can be shifted in accordance with job instructions3.4 Safe working limits for lifting equipment are identified and maintained3.5 Planned process and route are followed using equipment within necessary range of limitations

ELEMENT	PERFORMANCE CRITERIA
	3.6 Relocated materials are set down without damage to goods, personnel or equipment and checked for stability
	3.7 Relocation is checked to see that it meets work requirements, and any variances are reported
4 Refurbish equipment and worksite	4.1 Site is cleaned and cleared of debris and unwanted material
	4.2 Field machines, tools and equipment are cleaned, inspected, serviced, maintained and stored in accordance with standard procedures
	4.3 Documentation is completed in accordance with standard procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant OH&S procedures and guidelines concerning the use of manually-operated equipment to shift loads
- Risks when using manually-operated equipment to shift loads, and related precautions to control the risk
- Workplace procedures and policies for the shifting of goods and materials using manually-operated equipment
- Problems that may arise when using manually-operated equipment to shift loads, and actions that should be taken to prevent or solve them
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles
- Relevant knots and lashings to use
- Method for splicing and maintaining cordage and SWR
- Relevant slings and securing devices to use

Required skills:

- Communicate effectively with others when using manually-operated equipment to shift loads
- Read and interpret instructions, procedures, information and signs relevant to the shifting of loads using manually-operated equipment
- Interpret and follow operational instructions and prioritise work

Required skills:

- Complete documentation related to work activities
- Work collaboratively with others when using manually-operated equipment to shift loads
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may arise when using manually-operated equipment to shift loads in accordance with regulatory requirements and workplace procedures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the shifting of loads using manually-operated equipment
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of:
 - applying the underpinning knowledge and skills
 - identifying load limits for lifting
 - relocating a load safely
 - identifying manual operating equipment and their capabilities
 - identifying faults and deficiencies and taking action to rectify problems

Context of and specific resources

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts

EVIDENCE GUIDE

for assessment

- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- As a minimum, assessment of knowledge must be conducted through appropriate assessments using written/practical/oral assessments
- Practical assessment must occur:
 - through activities in an appropriately simulated environment, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The shifting operations may be conducted:

- in a range of work environments
- by day or night
- under all weather conditions
- in a range of terrain, soil, vegetation
- internal or external

Customers may be:

- large, medium or small worksites

Workplaces may comprise:

- restricted spaces
- exposed conditions
- controlled or open environments

Work may be conducted in:

- goods
- equipment and tools

Materials to be shifted may

RANGE STATEMENT

include:

- cleaning materials
- components and parts of vehicles and equipment such as tyres, batteries, lifting gear, etc.
- materials used in the course of work such as drums of fuel, raw materials, packaging, etc.

Loads to be shifted may be:

- irregularly shaped
- packaged or unpackaged
- labelled or unlabelled
- palleted or unpalleted

Hazards in the work area may include exposure to:

- chemicals
- dangerous or hazardous substances
- movements of equipment, goods and materials

Personnel in the work area may include:

- workplace personnel
- site visitors
- contractors
- official representatives

Manually-operated equipment may include:

- pallet jack
- hand trolley
- electric manual handling equipment
- straps
- slings
- chain blocks
- gins
- derricks
- incline planes
- chain blocks
- sheers

Communication in the work area may include:

- phone
- electronic data interchange (EDI)
- fax
- email
- internet
- radio
- oral, aural or signed communications

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures

Personal protective equipment

- gloves
- safety headwear and footwear

RANGE STATEMENT

may include:

- safety glasses
- two-way radios
- high visibility clothing

Measuring aids and field machines may include:

- mechanical strapping equipment
- gins, sheers, and derricks
- block and tackle, pulleys
- hand operated winches
- jacks
- improvised methods such as Spanish windlass and par buckles
- use of expedient materials such as materials obtained on the job from resources available in the local environment

Information/documents may include:

- goods identification numbers and codes
- manifests, bar codes, goods and container identification
- manufacturers instructions concerning the use and servicing of manually-operated load shifting equipment
- workplace procedures and policies
- supplier and/or client instructions
- material safety data sheets
- codes of practice including the National Standards for Manual Handling and the Industry Safety Code
- relevant legislation, regulations and related documentation
- award, enterprise bargaining agreement, other industrial arrangements
- standards and certification requirements
- quality assurance procedures
- emergency procedures

Applicable regulations and legislation may include:

- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- workplace relations regulations
- workers compensation regulations
- licence, patent or copyright arrangements
- dangerous goods and air freight regulations
- export/import/quarantine/bond requirements
- marine orders

Unit Sector(s)

Not Applicable

Competency Field

Competency Field D - Load Handling

TLID2003A Handle dangerous goods/hazardous substances

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to handle dangerous goods and hazardous substances, including identifying requirements for working with dangerous goods and/or hazardous substances; confirming site incident procedures; and selecting handling techniques. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

This unit covers anyone working in the transport, warehousing, distribution and storage industries who may handle dangerous goods and/or hazardous substances.

Work must be carried out in compliance with the relevant OH&S regulations concerning the safe handling of dangerous goods and hazardous substances.

Work is performed under general supervision. It involves the application of the codes of practice and established procedures for the safe handling of dangerous goods and hazardous substances.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify requirements for working with dangerous goods and/or hazardous substances	<p>1.1 Dangerous goods and/or hazardous substances are identified from information including class labels, manifests and other documentation</p> <p>1.2 Storage requirements for hazardous substances and/or dangerous goods are identified and applied</p> <p>1.3 Legislative requirements for hazardous substances and/or dangerous goods are known and used to plan work activities</p> <p>1.4 Handling procedures for different classes and characteristics of goods are observed</p> <p>1.5 Confirmation is sought from relevant personnel where dangerous goods or hazardous materials do not appear to be appropriately marked</p>
2 Confirm site incident procedures	<p>2.1 Incident reporting processes are identified</p> <p>2.2 Emergency equipment is located and checked according to workplace procedures and statutory regulations</p> <p>2.3 Emergency procedures are identified and confirmed</p>
3 Select handling techniques	<p>3.1 Load handling and shifting procedures are selected in accordance with identified requirements for particular goods</p> <p>3.2 Handling equipment is checked for conformity with workplace requirements and manufacturers guidelines</p> <p>3.3 Where relevant, suitable signage is checked for compliance with workplace procedures</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- All relevant regulations and codes concerning the handling of dangerous goods and hazardous substances
- Application of relevant aspects of current Australian Dangerous Goods Code and relevant Australian Standards
- Permit and licence requirements
- Workplace procedures for handling and storing dangerous goods/hazardous substances
- Problems that may arise during the handling of dangerous goods and hazardous substances and actions that should be taken to prevent or solve them

REQUIRED KNOWLEDGE AND SKILLS

- Risks when handling dangerous goods and hazardous substances and related precautions to control the risk
- Equipment applications, capacities, configurations, safety hazards and control mechanisms
- Housekeeping standards procedures required in the workplace

Required skills:

- Communicate effectively with others when handling dangerous goods and hazardous substances
- Read and interpret instructions, procedures, regulations, information and signs relevant to the handling of dangerous goods and hazardous substances
- Identify containers and goods coding, markings and, where applicable, emergency information panels for the mode of transport storage selected
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to work activities
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when handling dangerous goods and hazardous substances
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when handling dangerous goods and hazardous substances in accordance with regulatory requirements and workplace procedures
- Plan own work including predicting consequences and identifying improvements
- Implement contingency plans for unanticipated situations that may arise when handling dangerous goods and hazardous substances
- Recognise hazards and apply precautions and required action to minimise, control or eliminate hazards that may exist during the handling of dangerous goods and hazardous substances
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of :
 - identifying dangerous goods/hazardous substances (from labels, IMDG markings, HAZCHEM signs and other relevant identification criteria)
 - identifying and selecting the safely requirements for handling dangerous goods/hazardous substances
 - maintaining workplace records and documentation
 - determining (any) required permits
 - identifying job and site hazards and planning work to minimise risks
 - selecting appropriate equipment and work systems including personal protection equipment
 - estimating weight and dimensions of load and any special requirements
 - identifying and assessing handling and storage precautions and requirements for dangerous goods/hazardous substances

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation

EVIDENCE GUIDE

- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

The dangerous goods may be handled in a range of work environments by day or night and may be:

- for short-term storage
- for long-term storage
- in transit

Customers may be:

- internal or external

Workplace environment may include:

- movement of equipment
- movement of goods
- materials and vehicular traffic
- site restrictions and procedures
- use of safety and personal protective equipment
- communications equipment
- specialised lifting and/or handling equipment
- incident breakdown procedures
- authorities and permits
- hours of operations
- noise restrictions
- additional gear and equipment
- segmentation procedures
- emergency procedures, including response to spillage/leaks, evacuation and firefighting

Hazards may include:

- hazardous or dangerous materials
- contamination of, or from, materials being handled
- noise, light, energy sources
- stationary and moving machinery, parts or components

RANGE STATEMENT

- service lines
 - spills, leakages, ruptures
 - fire or ignition
 - dust/vapours
- Hazard management is:
- consistent with the principle of hierarchy of control with elimination, substitution, isolation and engineering control measures being selected before safe working practices and personal protective equipment
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, potential customers and existing clients
 - representatives of regulatory authorities with jurisdiction over OH&S, dangerous goods and hazardous substances
 - management and union representatives
 - industrial relations and OH&S specialists
 - other maintenance, professional or technical staff
- Personnel in the work area may include:
- workplace personnel
 - site visitors
 - contractors
 - official representatives
- Identification of goods may be from:
- material safety data sheets
 - packaging labels
 - manifests
 - stock lists
 - HAZCHEM interpretative advice
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - mask and respirator
 - protective clothing
 - breathing apparatus
- Information/documents may include:
- goods identification numbers and codes
 - manifests, stock lists, packaging labels, bar codes, stock lists
 - goods and container identification
 - workplace procedures and policies concerning the handling of dangerous goods and hazardous substances

RANGE STATEMENT

Applicable regulations and legislation may include:

- supplier and/or client instructions
- material safety data sheets (MSDS)
- current Australian Dangerous Goods Code
- HAZCHEM interpretative advice
- relevant legislation, codes, regulations and related documentation concerning the handling of dangerous goods and hazardous substances
- award, enterprise bargaining agreement, other industrial arrangements
- standards and certification requirements
- quality assurance procedures
- emergency procedures pertaining to dangerous goods and hazardous substances
- relevant Australian and state/territory regulations relating to the handling of dangerous goods and hazardous substances
- current Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian Marine Orders and the International Maritime Dangerous Goods Code
 - IATA Dangerous Goods by Air regulations
 - Australian and International Explosives Codes
- all relevant Australian Standards
- relevant state/territory OH&S legislation
- workplace relations regulations
- equal employment opportunity and affirmative action legislation
- equal opportunity legislation
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

D - Load Handling

TLID2004A Load and unload goods/cargo

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to load and unload goods and cargo, including loading and unloading goods, securing and protecting the load and completing all required documentation. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant regulations/permit requirements including those of the relevant state/territory roads and traffic authority concerning the loading of goods/cargo.

Work is performed under some supervision generally within a team environment. It involves the application of the basic principles, routine procedures and regulatory/permit requirements to the loading and unloading of goods/cargo.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Load and unload goods/cargo	<p>1.1 Load characteristics are identified and taken into account when determining appropriate loading and unloading procedures</p> <p>1.2 Dangerous or hazardous goods are identified and handled in accordance with the Australian Dangerous Goods (ADG) Code and other relevant regulations/permit requirements</p> <p>1.3 Load is packed/unpacked to make safe and effective use of available spaces</p> <p>1.4 Goods/cargo are loaded in accordance with relevant mass and loading regulations and workplace procedures</p> <p>1.5 Lifting aids and appliances are selected and used to aid loading procedures in compliance with workplace procedures and safety legislation</p> <p>1.6 Unloading activities are conducted in a safe and efficient manner taking into account suitable locations, stowage, safe use of equipment and the balance of the remaining load</p> <p>1.7 Goods requiring special handling and/or documentation are identified and appropriate procedures followed</p> <p>1.8 Relocated material is restacked appropriate for the transport method, safe height, weight loading, size and crushability of the goods</p>
2 Secure and protect load	<p>2.1 The distribution of the load is checked to ensure that it is even, legal and within safe working capacity</p> <p>2.2 Load is checked to ensure that dangerous goods and hazardous substances are appropriately segregated in accordance with the ADG Code</p> <p>2.3 Load is secured using the correct load restraint and protection equipment for different loads, carrying and storage conditions</p> <p>2.4 The load is protected in accordance with legal and workplace safety requirements</p>
3 Complete documentation	<p>3.1 The load is inspected and checked for security to travel in accordance with relevant regulations/permit requirements and the ADG Code where applicable</p> <p>3.2 All required documentation for the goods is completed in accordance with workplace requirements including the ADG Code where applicable</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant Australian standards and regulations including state/territory mass and loading regulations
- National Load Restraint Guide
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances
- OH&S procedures and guidelines concerning the lifting and movement of loads
- Risks when loading and unloading goods/cargo and related precautions to control the risk
- Security awareness requirements when loading and unloading vehicles and in particular the recognition, isolation and reporting of suspicious cargo and goods
- Workplace procedures and policies for the loading and unloading of goods/cargo
- Housekeeping standards procedures required in the workplace
- Methods of securing a load
- Site layout and obstacles
- Problems that may arise when loading and unloading goods and cargo and actions that should be taken to prevent or solve them

Required skills:

- Communicate effectively with others when loading and unloading goods and cargo
- Read and interpret instructions, procedures, information, signs and labels relevant to the loading and unloading of goods and cargo
- Identify containers and goods coding, ADG and IMDG markings and, where applicable, emergency information panels and take appropriate action
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the loading and unloading of goods and cargo
- Operate electronic communication equipment to required protocol
- Estimate the size, shape and special requirements of loads and take appropriate action
- Work collaboratively with others when loading and unloading goods and cargo
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may arise when loading and unloading goods and cargo in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected situations that may occur when loading and unloading goods and cargo
- Apply precautions and required action to minimise, control or eliminate hazards that may exist

Required skills:

- during the loading and unloading of goods and cargo
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in cargo and equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and

EVIDENCE GUIDE

- operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Operations may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- restricted spaces
 - exposed conditions
 - controlled or open environments
- Goods/cargo to be loaded or unloaded may:
- require special precautions
- Loads to be shifted may be:
- irregularly shaped
 - packaged or unpackaged
 - labelled or unlabelled
 - palletted or unpalletted
- Hazards in the work area may include exposure to:
- chemicals
 - dangerous or hazardous substances
 - movements of equipment, goods and materials
- Personnel in the work area may include:
- workplace personnel
 - site visitors
 - contractors

RANGE STATEMENT

- Communication in the work area may include:
- official representatives
 - phone
 - electronic data interchange
 - fax
 - email
 - internet
 - radio
 - oral, aural or signed communications
- Loading operations may be carried out:
- manually
 - with the aid of lifting equipment and/or appliances
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Information/documents may include:
- goods identification numbers and codes, including ADG and IMDG markings and HAZCHEM signs
 - manifests, bar codes, goods and container identification
 - manufacturers specifications for equipment/tools
 - workplace procedures and policies for the loading and unloading of goods/cargo
 - ADG Code and associated regulations
 - supplier and/or client instructions
 - material safety data sheets
 - EPGs and Initial Response Guide (HB76:1998 or equivalent)
 - codes of practice including the National Standards for Manual Handling and the Industry Safety Code
 - award, enterprise bargaining agreement, other industrial arrangements
 - relevant Australian standards and certification requirements
 - quality assurance procedures
 - emergency procedures
 - Load Restraint Guide
- Applicable regulations and
- relevant Australian standards and regulations including

RANGE STATEMENT

legislation may include

- state/territory mass and loading regulations
- Australian and international regulations and codes of practice for the handling and transport of dangerous goods and hazardous substances, including:
 - Australian and International Dangerous Goods Codes
 - Australian Marine Orders and the International Maritime Dangerous Goods Code
 - IATA Dangerous Goods by Air regulations
 - Australian and International Explosives Codes
 - relevant state/territory environmental protection legislation
 - relevant state/territory OH&S legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field D - Load Handling

TLID2010A Operate a forklift

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to operate a forklift, including checking forklift condition, driving the forklift to fulfil operational requirements, monitoring site conditions, and monitoring and maintaining forklift performance. Assessment of this unit will usually be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory OH&S authority. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Operation of a forklift must be carried out in compliance with the licence requirements and regulations of the relevant state/territory authority.

Operation of a forklift is performed under some supervision, generally within a team environment. It involves the application of routine equipment operation principles and procedures to maintain the safety and operation of a forklift in a variety of operational contexts.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Check forklift condition	1.1 Condition of forklift is checked for compliance with OH&S and workplace requirements for warning devices, manufacturers specifications and the nature of the load shifting task 1.2 Attachments are checked to ensure appropriate adjustment and operation 1.3 Mirrors and seats are adjusted for safe operation by the driver 1.4 Log books are checked and appropriate workplace documentation is completed in accordance with workplace requirements
2 Drive the forklift	2.1 Forklift is started, steered, manoeuvred, positioned and stopped in accordance with regulations and manufacturers instructions 2.2 Engine power is managed to ensure efficiency and performance and to minimise engine and gear damage 2.3 Operational hazards are identified and/or anticipated and avoided or controlled through defensive driving and appropriate hazard control techniques 2.4 Forklift is driven in reverse, maintaining visibility and achieving accurate positioning 2.5 The forklift is parked, shut down and secured in accordance with manufacturers specifications, regulations and workplace procedures
3 Operate a forklift to handle loads	3.1 The lifting task to be undertaken is appropriately planned and the correct lifting truck and attachments are selected 3.2 The load is lifted, carried, lowered and set down in accordance with OH&S legislation, manufacturers specifications and company procedures
4 Monitor site conditions	4.1 When selecting the most efficient route, hazards and traffic flow are identified and appropriate adjustments are made 4.2 Site conditions are assessed to enable safe operations and to ensure no injury to people or damage to property, equipment, loads or facilities occurs
5 Monitor and maintain forklift performance	5.1 Performance and efficiency of vehicle operation is monitored during use 5.2 Defective/irregular performance and malfunctions reported to relevant personnel 5.3 Forklift records are maintained/updated in accordance with workplace procedures and legislative requirements

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant duty of care requirements pertaining to the operation of a forklift
- Relevant OH&S and environmental procedures and regulations
- Workplace operating procedures
- Forklift controls, instruments and indicators and their use
- Forklift handling procedures
- Procedures to be followed in the event of an operational emergency
- Engine power management and safe operating strategies
- Efficient driving techniques
- Operating hazards and related defensive driving and hazard control techniques
- Pre-operational checks carried out on forklift and related action
- Principles of stress management when driving a forklift
- Site layout and obstacles

Required skills:

- Communicate effectively with others when operating a forklift
- Read and interpret instructions, procedures, information and signs relevant to the operation of a forklift
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the operation of a forklift
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when operating a forklift
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events when operating a forklift
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the operation of a forklift
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques

Required skills:

- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Identify points of balance and safe lifting positions on a range of loads when operating a forklift (including accessories)
- Monitor performance of forklift and its equipment and take appropriate action where required
- Ensure that a forklift and its equipment are maintained in terms of service schedule and standard operating procedures
- Check and replenish fluids and carry out lubrication processes in the course of work activities

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and

EVIDENCE GUIDE

- Method of assessment**
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
 - Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Types of forklift may include:
- counterbalance trucks
 - reach trucks
 - pallet trucks
- Operations may be carried out in typical forklift operational situations, including:
- operations conducted at day or night
 - typical weather conditions
 - on the open road
 - on a private road or worksite
 - while at a workplace
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted in:
- restricted spaces
 - exposed conditions
 - controlled or open environments
- Loads to be shifted may require:
- special precautions
- Loads to be shifted may be:
- irregularly shaped
 - packaged or unpackaged
 - labelled or unlabelled
 - palletted or unpalletted

RANGE STATEMENT

Hazards in the work area may include exposure to:

- chemicals
- dangerous or hazardous substances
- movements of equipment, goods and materials

Personnel in the work area may include:

- workplace personnel
- site visitors
- contractors
- official representatives

Forklift handling procedures may include:

- starting a forklift
- steering and manoeuvring a forklift
- accelerating and braking
- positioning and stopping a forklift
- reversing a forklift
- operating forklift controls, instruments and indicators
- using defensive driving techniques
- managing engine performance

Pre-operational checks may include:

- visual check of forklift
- checking and topping up of fluid levels
- checks of tyres
- checks of operation of forklift lights and indicators
- checks of brakes

Hazards may include (examples only):

- wet and iced operating surfaces
- oil on operating surface
- faulty brakes
- workplace obstacles and other operational equipment and vehicles
- damaged loads and pallets
- other personnel in work area

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures

Personal protection equipment may include:

- gloves
- safety headwear and footwear
- safety glasses
- two-way radios
- high visibility clothing

Information/documents may include:

- goods identification numbers and codes, including IMDG markings and HAZCHEM signs
- manifests, bar codes, picking slips, merchandise transfers, stock requisitions, goods and container identification

RANGE STATEMENT

- Australian Standard 2359 - Industrial Truck Code
 - manufacturers specifications for forklift and associated equipment
 - operations and service record book or log
 - workplace procedures and policies for the operation of forklifts
 - supplier and/or client instructions
 - ADG Code and material safety data sheets
 - regulatory requirements concerning the use of forklifts
 - award, enterprise bargaining agreement, other industrial arrangements
 - standards and certification requirements
 - quality assurance procedures
 - emergency procedures
 - relevant state/territory regulations pertaining to the operation of forklifts
 - relevant codes and standards, including Australian Standard 2359 - Industrial Truck Code
 - relevant state/territory OH&S legislation
 - relevant state/territory fatigue management regulations
 - relevant state/territory environmental protection legislation
- Applicable procedures and codes may include:

Unit Sector(s)

Not Applicable

Competency Field

Competency Field D - Load Handling

TLID2022A Conduct weighbridge operations

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to conduct weighbridge operations in accordance with regulatory requirements and workplace procedures, including setting up for weighbridge operations, weighing loaded vehicles, weighing unloaded vehicles, finalising weighbridge operations, and completing required records and documentation. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with regulations and workplace requirements relevant to weighbridge operations.

Work is performed under some supervision, generally within a team environment.

Work involves the application of regulatory requirements and workplace procedures when conducting weighbridge operations in the transport, warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Set up for weighbridge operations	1.1 Weighbridge systems, including equipment, computer and recording arrangements are checked for operational status 1.2 Tests to confirm accuracy of weighbridge operation and related functions are conducted in accordance with workplace procedures, manufacturers instructions and relevant legislation 1.3 Accurate reporting of the results of the inspection and testing is kept in accordance with statutory requirements, workplace policy and industry guidelines 1.4 Faults/discrepancies in weighbridge operation are identified and action is undertaken in accordance with workplace procedures
2 Weigh loaded vehicles	2.1 Vehicles likely to exceed weighbridge weight limit are turned away 2.2 Vehicles are directed onto platform to obtain accurate weight 2.3 Weight of loaded stationary vehicle is registered against vehicle and load identification 2.4 Vehicle and load information is entered into workplace recording system and driver is issued with receipt and/or statement 2.5 Areas of dispute are resolved or forwarded for further action undertaken in accordance with workplace procedures
3 Weigh unloaded vehicles	3.1 Vehicles are directed onto platform to obtain accurate weight 3.2 Weight of unloaded stationary vehicle is registered against vehicle 3.3 Proposed load weight is assessed for conformance to statutory requirements 3.4 Where appropriate, loading operations are commenced in accordance with legal loading weight, customer requirements and workplace procedures with vehicle re-weighed to establish final load weight 3.5 Vehicle and load information is entered into workplace recording system and invoice is issued to driver where appropriate 3.6 Driver signatures on weighbridge documents, invoices or receipts are obtained in accordance with statutory and workplace requirements 3.7 Areas of dispute are resolved or forwarded for further action to be undertaken in accordance with workplace procedures
4 Complete weighbridge operations	4.1 Weighbridge systems, including equipment, computer and recording arrangements are secured or made ready for next shift 4.2 Record of operations is maintained and filed in accordance with

ELEMENT**PERFORMANCE CRITERIA**

workplace procedures and statutory requirements

Required Skills and Knowledge**REQUIRED KNOWLEDGE AND SKILLS**

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Regulations relevant to the conduct of weighbridge operations including Australian Dangerous Goods Code where applicable
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the conduct of weighbridge operations
- Problems that may occur when conducting weighbridge operations and appropriate action that can be taken to resolve the problems
- Equipment applications, capacities, configurations, safety hazards and control mechanisms
- Records and documentation requirements for weighbridge operations
- Classification procedures
- Despatch procedures
- Calculation method and approaches for both metric and imperial systems
- Correct weighing procedures including statutory and workplace requirements
- Emergency response procedures
- Site layout

Required skills:

- Communicate effectively with others when conducting weighbridge operations
- Read and interpret instructions, procedures and information relevant to the conduct of weighbridge operations
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the conduct of weighbridge operations
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when conducting weighbridge operations
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, errors or malfunctions that may occur when conducting weighbridge operations in accordance with regulatory requirements and workplace procedures

Required skills:

- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the conduct of weighbridge operations
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Set up and maintain weighbridge equipment
- Identify, select and efficiently and effectively use weighbridge equipment
- Monitor performance of weighbridge equipment

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:

EVIDENCE GUIDE

- relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Workplace environment may include:
- movement of equipment, goods, products, materials and vehicular traffic
- Weighbridge operations may be:
- inclusive of a single operation involving the loading of vehicles and despatch functions
- Weighbridge operation may be:
- electro/mechanical
 - electronic
 - computerised
- Vehicles may include
- trucks
 - articulated road vehicles
 - trailers
 - wagons
- Calibration and/or testing of
- required prior to and during operations

RANGE STATEMENT

equipment may be:

Hazards in the work area may include exposure to:

- chemicals and pesticides
- dangerous or hazardous substances
- stationary and moving equipment, parts and materials
- noise, light, energy sources
- electrical equipment
- humidity, air temperature, radiant heat
- faulty equipment

Personal protective equipment may include:

- gloves
- safety headwear and footwear
- safety glasses
- two-way radios
- protective clothing
- respirators and fume/dust masks
- high visibility clothing

Requirements for work may include:

- site restrictions and procedures
- use of safety and personal protective equipment
- communications/recording equipment
- authorities and permits
- breakdown procedures
- emergency procedures

Communication in the work area may include:

- phone
- fax
- email/internet
- electronic data interchange (EDI)
- RF systems
- oral, aural or signed communications

Consultative processes may involve:

- workplace personnel
- supervisors and managers
- existing and potential customers/clients
- drivers
- suppliers and contractors
- union representatives
- industrial relations and OH&S specialists
- maintenance, professional or technical staff

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- workplace procedures
- organisational procedures
- established or standard procedures

RANGE STATEMENT

Information/documents may include:

- operations manuals, job specifications and procedures
- induction documentation
- competency standards and training materials
- manufacturers specifications and instructions for the operation of weighbridge equipment
- material safety data sheets
- workplace operating procedures and policies
- supplier and/or client instructions
- Australian and international standards, criteria and certification requirements
- codes of practice including the National Standards for Manual Handling and the Industry Safety Code
- relevant regulations including the ADG Code
- award, workplace bargaining agreement, other industrial arrangements
- OH&S procedures
- quality assurance procedures
- emergency procedures

Applicable regulations and legislation may include:

- relevant codes and regulations pertaining to weighbridge operations
- traffic acts and road transport mass and loading regulations
- ADG Code and regulations pertaining to the storage and handling of dangerous and hazardous goods
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- relevant Australian and international standards and certification requirements
- workplace relations regulations including equal opportunity, equal employment opportunity and affirmative action legislation
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

D - Load Handling

TLID3011A Conduct specialised forklift operations

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to operate a forklift with specialised attachments or all-terrain equipment, including checking attachments and worksite for suitability, selecting the type of forklift and accessories for required load shifting tasks, and shifting load and completing work in accordance with operational requirements. Assessment of this unit will usually be undertaken within a licensing examination conducted by, or under the authority of, the relevant state/territory OH&S authority. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Specialised operation of a forklift must be carried out in compliance with the licence requirements and regulations of the relevant state/territory authority.

Specialised operation of a forklift is performed under some supervision, generally within a team environment. It involves the application of equipment operation principles and procedures to maintain the safety and specialised operation of a forklift in a wide variety of operational contexts.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Check attachments and worksite for suitability	1.1 Suitable work site is selected for operations 1.2 Work area is checked for overhead obstructions and proximity to service delivery lines 1.3 Barriers or warning signs are erected in areas subject to passing traffic 1.4 Attachments and platforms are securely fixed to carriage or tines 1.5 Personnel support platforms are inspected to ensure compliance with the relevant Australian Standard
2 Select type of forklift and accessories for the required workplace task	2.1 Special equipment, accessories or attachments are identified to match load characteristics and work requirements 2.2 Appropriate specialised equipment is selected 2.3 Existing attachments are removed and stored according to workplace procedures 2.4 Specialised equipment is fitted according to manufacturers instructions and workplace procedures 2.5 Designated staff are notified regarding specialist operations
3 Shift load and complete work	3.1 Equipment is operated within safe working limits and to maximise efficiency of operations 3.2 Load is lifted, carried and set down in accordance with workplace and manufacturers procedures and regulatory requirements 3.3 Documentation is completed reporting any damage or faults to goods or equipment 3.4 Specialist equipment and forklift are returned to appropriate storage/parking area

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant duty of care requirements pertaining to the specialised operation of a forklift
- Relevant OH&S and environmental procedures and regulations
- Workplace operating procedures

REQUIRED KNOWLEDGE AND SKILLS

- Forklift controls, instruments and indicators and their use
- Types of forklift accessories and ancillary equipment, their purposes and procedures for their use
- Handling procedures for forklifts involved in specialised operations
- Procedures to be followed in the event of an operational emergency
- Operating hazards and related defensive driving and hazard control techniques
- Engine power management and safe operating strategies
- Efficient driving techniques
- Pre-operational checks carried out on forklift and accessories and related action
- Site layout and obstacles
- Principles of stress management when driving a forklift

Required skills:

- Communicate effectively with others when conducting specialised forklift operations
- Read and interpret instructions, procedures, information and signs relevant to specialised forklift operations
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to specialised forklift operations
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when conducting specialised forklift operations
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may arise when conducting specialised forklift operations in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may occur when conducting specialised forklift operations
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during specialised forklift operations
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S

Required skills:

standards

- Identify points of balance and safe lifting positions on a range of loads when operating a forklift (including accessories)
- Monitor performance of equipment
- Service equipment in terms of maintenance schedule and standard operating procedures
- Check and replenish fluids and carry out lubrication processes in the course of work activities

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be

EVIDENCE GUIDE

conducted through appropriate written/oral tests

- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Types of forklift may include:

- counterbalance trucks
- reach trucks
- pallet trucks
- container-handling heavy forklifts
- vacuum
- top frame

Specialised forklift operations may be carried out in typical forklift operational situations, including:

- operations conducted at day or night
- typical weather conditions
- on the open road
- on a private road or worksite
- while at a workplace

Customers may be:

- internal or external

Workplaces may comprise:

- large, medium or small worksites

Specialised forklift may be used to assist in a range of workplace tasks, including:

- stock/goods/container handling
- loading and unloading vehicles
- stacking stock and goods
- lifting and moving equipment
- transporting materials and goods in a workplace

Work may be conducted in:

- restricted spaces
- exposed conditions
- controlled or open environments

Loads to be shifted may require:

- special precautions

Specialised forklift operations

- spikes

RANGE STATEMENT

may involve the use of a range of attachments and accessories, including:

- drum carriers
- bale carriers
- tines
- personnel carriers
- high reaching
- pantograph
- jibs
- paper clamps
- hooks
- side lifters

Loads to be shifted may be:

- irregularly shaped
- packaged or unpackaged
- labelled or unlabelled
- palleted or unpalleted
- containerised

Personnel in the work area may include:

- workplace personnel
- site visitors
- contractors
- official representatives

Forklift operational procedures may include:

- starting a forklift (including pre-start checks)
- steering and manoeuvring a forklift
- accelerating and braking
- positioning and stopping a forklift
- reversing a forklift
- operating forklift controls, instruments and indicators
- using defensive driving techniques
- managing engine performance

Pre-operational checks may include but are not limited to:

- visual checking of forklift and its associated accessories and equipment
- checking and topping up of fluid levels
- checks of tyres
- checks of operation of forklift lights and indicators
- checks of brakes

Post-operational checks may include but are not limited to:

- parking in a safe place
- shutting down forklift
- lowering all equipment
- visually checking for faults or damage

Hazards may include (examples only):

- wet and iced operating surfaces
- oil on operating surface
- faulty brakes

RANGE STATEMENT

- workplace obstacles and other operational equipment and vehicles
 - damaged loads and pallets
 - other personnel in work area
 - company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - high visibility clothing
- Information/documents may include:
- goods identification numbers and codes, including IMDG markings and HAZCHEM signs
 - manifests, bar codes, picking slips, merchandise transfers, stock requisitions, goods and container identification
 - Australian Standard 2359 - Industrial Truck Code
 - manufacturers specifications for forklift and associated accessories and equipment
 - operations and service record book or log
 - workplace procedures and policies for the operation of forklifts
 - supplier and/or client instructions
 - material safety data sheets
 - regulatory requirements concerning the use of forklifts
 - award, enterprise bargaining agreement, other industrial arrangements
 - standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable procedures and codes may include:
- relevant state/territory regulations pertaining to the operation of forklifts
 - relevant codes and standards, including Australian Standard 2359 - Industrial Truck Code
 - relevant state/territory OH&S legislation
 - relevant state/territory fatigue management regulations
 - relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field D - Load Handling

TLID3035A Operate a boom type elevating work platform

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to operate a boom type elevating work platform, including inspecting and testing the elevating work platform, assessing job requirements and work, planning work and setting up for lift, carrying out the elevation, implementing planned hazard control and strategies, and packing up the work platform after operations. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the licence/permit requirements and regulations of the relevant state/territory authorities pertaining to boom type elevating work platform operations.

Work is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes. It involves the application of routine principles and procedures to the operation of a boom type elevating work platform in a variety of operational contexts.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Inspect and test elevating work platform	<p>1.1 Work platform is visually inspected prior to operation for any evidence of damage, structural weakness or interference according to pre-operational safety check procedures</p> <p>1.2 Routine pre-operational equipment checks are carried out in accordance with available checklists</p> <p>1.3 Work platform log book is checked, service requirements are noted and maintenance personnel advised of any requirements</p> <p>1.4 Elevating work platform is started in accordance with manufacturers guidelines and start-up procedures for operations and any abnormal noise or movement reported to an authorised person for corrective action</p> <p>1.5 Start-up checks are conducted according to manufacturers specifications and company procedures to ensure work platform and equipment are operating correctly</p> <p>1.6 Faults are corrected or are reported to an authorised person for corrective action according to company procedures</p> <p>1.7 The operating and emergency controls are checked for correct operation in accordance with manufacturers specifications including use of the emergency decent device</p> <p>1.8 Boom is lowered under simulated emergency conditions to check for operational effectiveness</p> <p>1.9 Gear and accessories are checked and damaged or worn gear is segregated and reported to an authorised person for testing/repair/destruction</p> <p>1.10 Results of inspections are recorded and reported according to company procedures</p>
2 Assess job requirements and work	<p>2.1 Briefing, hand-over details, authorisations and clearances are received, interpreted and clarified in accordance with company and site procedures and legislative requirements</p> <p>2.2 Work area is inspected and potential hazards are identified and appropriate elimination or control measures selected</p> <p>2.3 Weight of load including personnel and equipment is correctly estimated to ensure job is within limits of work platform capacity</p>
3 Plan work and set up for lift	<p>3.1 A work plan is developed and agreed with relevant workplace personnel to include hazard prevention/control measures and safety and emergency procedures in line with applicable Australian standards</p> <p>3.2 A suitable firm and level standing is chosen and prepared for the location of the elevating work platform</p> <p>3.3 Outriggers and stabilisers are correctly deployed and positioned</p>

ELEMENT**PERFORMANCE CRITERIA**

- in accordance with manufacturers instructions and appropriate Australian standards
- 3.4 Appropriate plates or packing are correctly used under the footplates as required to adequately distribute the loading
- 3.5 Ground is checked before and after packing is installed to ensure it is firm enough to bear the load
- 3.6 The job plan is developed to include hazard prevention/control measures and safety procedures in line with applicable Australian standards and to equipment manufacturers specifications
- 3.7 Work platform load chart is located and information on permissible loads, radii and heights taken into account in planning the job
- 3.8 The job plan takes into account job requirements and workplace rules and procedures
- 3.9 Job plan is discussed and confirmed with relevant personnel
- 3.10 Work gear and tools are properly stowed in the elevating work platform in accordance with Australian standards, company procedures and guides
- 4 Carry out elevation**
- 4.1 Configuration and operation of elevating work platform are checked as necessary to ensure safe lift
- 4.2 Operation of work platform is carried out in accordance with the job plan, the appropriate Australian standard and manufacturers specifications
- 5 Planned hazard control and strategies are implemented**
- 5.1 Load is constantly monitored to ensure safety of personnel, load and structural stability
- 5.2 Unplanned situations are responded to in line with company procedures in a manner that minimises risk to personnel and equipment
- 5.3 Required signals are correctly given, interpreted and followed in accordance with appropriate Australian standards
- 6 Pack up work platform**
- 6.1 The elevating work platform is shut down using the correct sequence of procedures in accordance with manufacturers instructions
- 6.2 Routine post-operational equipment checks are carried out in accordance with manufacturers instructions and available checklists and defects recorded and reported in line with company procedures
- 6.3 The elevating work platform is dismantled in accordance with the job plan, manufacturers instructions and relevant statutory regulations
- 6.4 The outriggers and stabilisers are secured and stowed in

ELEMENT**PERFORMANCE CRITERIA**

accordance with manufacturers instructions

6.5 The elevating work platform is correctly stowed and secured in accordance with manufacturers instructions and company procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant road rules, regulations, permit and licence requirements pertaining to boom type elevating work platform operation
- Relevant OH&S and environmental procedures and regulations
- Boom type elevating work platform applications, capacities, configurations, safety hazards and control mechanisms
- Workplace procedures concerning the operation of a boom type elevating work platform at a worksite
- Problems that may arise when operating a boom type elevating work platform and actions that should be taken to prevent or solve them
- Risks and hazards involved in the operation of a boom type elevating work platform and the associated action that can be taken to eliminate or minimise the risk/hazards concerned
- Focus of operation of work systems and equipment

Required skills:

- Communicate effectively with others when operating a boom type elevating work platform
- Read and interpret instructions, procedures, regulations, codes of practice and manuals relevant to the operation of a boom type elevating work platform
- Interpret and follow operational instructions
- Complete documentation related to the operation of a boom type elevating work platform
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when operating a boom type elevating work platform
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when operating a boom type elevating work platform in accordance with regulatory requirements and workplace procedures

Required skills:

- Plan own work including predicting consequences and identifying improvements
- Prioritise and multi-task work
- Implement contingency plans for unanticipated situations that may arise when operating a boom type elevating work platform
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the operation of a boom type elevating work platform
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Identify and correctly use equipment, processes and procedures
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Monitor performance of equipment
- Service equipment in terms of maintenance schedule and standard operating procedures
- Check and replenish fluids and carry out lubrication processes in the course of work activities

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:

EVIDENCE GUIDE

- a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
 - In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- | | |
|--|--|
| Operations may be conducted: | <ul style="list-style-type: none"> • by day or night • in a variety of weather conditions |
| Environment may include movement of: | <ul style="list-style-type: none"> • equipment • goods • materials • vehicular traffic |
| Customers may be: | <ul style="list-style-type: none"> • internal or external |
| Boom type elevating work platform may be involved in work in a range of industry sectors | <ul style="list-style-type: none"> • construction and demolition • manufacturing • waterfront |

RANGE STATEMENT

including:

- mining
- primary industry
- utilities (electricity, gas, water)
- arboricultural
- swimming pool
- quarrying

Hazards may include:

- power lines
- noise, light, energy sources
- overhead service lines
- surrounding buildings, structures, facilities
- underground services
- obstructions
- uneven or unstable ground and recently filled trenches
- stationary and moving machinery and equipment
- hazardous or dangerous materials
- traffic hazards and congestion

Hazard management is consistent with:

- the principle of hierarchy of control with elimination, substitution, isolation and engineering control measures being selected before safe working practices and personal protective equipment

Consultative processes may involve:

- other employees and supervisors
- management
- union representatives
- clients
- industrial relations and OH&S specialists
- other professional or technical staff

Requirements for access and/or lift may include:

- site restrictions and procedures
- authorities and permits
- hours of operation
- induction
- slings, chains, nets, brackets and other specialised lifting equipment
- noise restrictions
- personal protective equipment
- support trucks
- additional gear and equipment
- communications equipment

Personal protective equipment may include:

- gloves
- safety headwear and footwear
- sunscreen, sunglasses and safety glasses

RANGE STATEMENT

- Elevating platforms may include:
- two-way radios
 - high visibility clothing
 - mechanically operated equipment
 - hydraulically operated equipment
 - electrically operated equipment
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
 - site procedures
- Documentation/records may include:
- operations manuals
 - Safe Working Load (SWL) and Working Load Limit (WLL)
 - site plans
 - induction documentation
 - competency standards and training materials
 - job specifications and procedures
 - manufacturers specifications
 - workplace operating procedures and policies
 - supplier and/or client instructions
 - communications technology equipment, oral, aural or signed communications
 - personal and work area work procedures and practices
 - conditions of service, legislation and industrial agreements including:
 - workplace agreements and awards
 - occupational health and safety procedures
 - standards and certification requirements
 - quality assurance procedures
 - emergency procedures
- Applicable procedures and codes may include:
- relevant state/territory regulations and licence/permit requirements pertaining to the operation of boom type elevating work platforms
 - relevant state/territory road rules
 - relevant state/territory OH&S legislation
 - relevant state/territory fatigue management regulations
 - relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field D - Load Handling

TLID3036A Lift and move load using a mobile crane

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to lift and move a load using a non-slewing mobile crane or a slewing mobile crane. It includes operating the mobile crane to complete job requirements, monitoring lift conditions, implementing shut-down procedures, packing up crane after operations, and completing all required job records. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the licence/permit requirements and regulations of the relevant state/territory authorities pertaining to operations of mobile cranes.

Work is performed with limited or minimum supervision, with limited accountability and responsibility for self and others in achieving the prescribed outcomes. It involves the application of routine principles, procedures and regulations to lift and move loads using slewing and non-slewing mobile cranes in a variety of operational contexts.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Operate mobile crane	<ul style="list-style-type: none">1.1 In ascent and descent to/from crane correct use is made of the means provided in accordance with codes of practice and workplace procedures1.2 Planned hazard control strategies are implemented1.3 Required signals are correctly given, interpreted and followed in accordance with appropriate workplace procedures1.4 Boom is positioned to ensure load to be lifted is plumbed under hook1.5 Load is hoisted and lowered into position using crane movements in accordance with the appropriate workplace procedures1.6 Crane controls are operated smoothly1.7 Crane is shut down and secured during periods of non-operation according to manufacturers specifications and workplace procedures
2 Monitor lift conditions	<ul style="list-style-type: none">2.1 Load is constantly monitored to ensure load and structural stability2.2 Conditions which may affect the continuing stability of the crane are identified and monitored2.3 Unplanned situations are responded to in line with workplace procedures in a manner that minimises risk to personnel and equipment2.4 Dogger is advised of any new information which affects the lift2.5 Any necessary changes to job plan are discussed and confirmed with rest of crew2.6 Advice is sought from supervisor where there is doubt about correct response to unanticipated conditions, or conflict with customer request2.7 Supervisor/allocator is advised of any concern about completing the job within timeframe
3 Implement shut-down procedures	<ul style="list-style-type: none">3.1 The relevant motion locks and brakes are applied3.2 Crane is shut down using the correct sequence of procedures in accordance with manufacturers specifications and workplace procedures3.3 Routine post-operational equipment checks are carried out in accordance with manufacturers specifications
4 Pack up crane	<ul style="list-style-type: none">4.1 Crane is de-rigged with other crane personnel in accordance with manufacturers instructions4.2 All lifting equipment and crane components are checked in consultation with crane personnel for any signs of deterioration

ELEMENT	PERFORMANCE CRITERIA
	or damage in accordance with the appropriate Australian Standard
	4.3 Damaged or worn equipment is segregated and reported to an authorised person for testing/repair/destruction
	4.4 Crane and equipment are correctly stowed and secured in accordance with manufacturers instructions and the appropriate Australian Standard
5 Complete job records	5.1 Customer feedback is sought regarding satisfaction with the completed job, and any areas of concern are reported according to workplace procedures
	5.2 Customer's signature on job completion documentation is obtained
	5.3 Required workplace records are updated accurately and promptly and processed according to workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant road rules, regulations, permit and licence requirements pertaining to mobile crane operation
- Relevant OH&S and environmental procedures and regulations
- Mobile crane applications, capacities, configurations, safety hazards and control mechanisms
- Risks and hazards involved in mobile crane operation, and associated action that can be taken to eliminate or minimise the risk
- Workplace procedures concerning the operation of a mobile crane at a worksite
- Problems that may occur during a lift, and associated action that can be taken to address the problems concerned
- Communication systems used during a lift
- Focus of operation of work systems and equipment

Required skills:

- Communicate effectively with others when lifting and moving a load using a mobile crane
- Read and interpret instructions, procedures, information and signs relevant to the lifting and moving of a load using a mobile crane

Required skills:

- Complete documentation related to the lifting and moving of a load using a mobile crane
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when lifting and moving a load using a mobile crane
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when lifting and moving a load using a mobile crane in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unanticipated situations that may arise when lifting and moving a load using a mobile crane
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the lifting and moving of a load using a mobile crane
- Plan own work including predicting consequences and identifying improvements
- Prioritise and multi-task work
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Monitor performance of equipment
- Service equipment in terms of maintenance schedule and standard operating procedures
- Check and replenish fluids and carry out lubrication processes in the course of work activities

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of

EVIDENCE GUIDE

unit

this unit and include demonstration of:

- applying the underpinning knowledge and skills
- applying relevant legislation and workplace procedures
- complying with OH&S licensing legislation
- applying risk assessment and management procedures for mobile crane operations
- effectively completing the pre-operational checks, positioning, stabilising, set-up, post-operational checks of a mobile crane
- using mathematical procedures to determine the weight of a load and the lifting equipment required for the lift
- using load charts to determine the limitations of the crane and/or crane set-up required
- operating the crane including all functions to their maximum extension in the lifting and moving of a load

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through appropriately simulated activities at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Operations may be conducted:
- by day or night
 - in a variety of weather conditions
- Environment may include movement of:
- equipment
 - goods
 - materials and vehicular traffic
- Customers may be:
- internal or external
- Mobile crane may be any slewing and non-slewing crane and may be involved in work in a range of industry sectors including:
- construction and demolition
 - manufacturing
 - waterfront
 - mining
 - primary industry
 - utilities (electricity, gas, water)
 - arboricultural
 - swimming pool
 - quarrying
- Hazards may include:
- power lines
 - noise, light, energy sources
 - overhead service lines
 - surrounding buildings, structures, facilities
 - underground services
 - obstructions
 - uneven or unstable ground and recently filled trenches
 - stationary and moving machinery and equipment
 - hazardous or dangerous materials
 - traffic hazards and congestion
- Hazard management is consistent with:
- the principle of hierarchy of control with elimination, substitution, isolation and engineering control measures being selected before safe working practices and personal protective equipment
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - sunscreen, sunglasses and safety glasses
 - two-way radios
 - high visibility clothing
- Consultative processes may
- other employees and supervisors

RANGE STATEMENT

involve:

- management
- union representatives
- clients
- industrial relations and OH&S specialists
- other professional or technical staff

Requirements for access and/or lift may include:

- site restrictions and procedures
- authorities and permits
- hours of operation
- induction
- slings, chains, nets, brackets and other specialised lifting equipment
- noise restrictions
- personal protective equipment
- support trucks
- additional gear and equipment
- communications equipment

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures
- site procedures

Documentation/records may include:

- site plans
- Safe Working Load (SWL) and Working Load Limit (WLL)
- operations manuals including load charts and crane and rigging manuals
- induction documentation
- competency standards and training materials
- job specifications and procedures
- manufacturers specifications
- workplace operating procedures and policies
- supplier and/or client instructions
- communications technology equipment, oral, aural or signed communications
- personal and work area work procedures and practices
- conditions of service, legislation and industrial agreements including:
 - workplace agreements and awards
 - occupational health and safety procedures
 - standards and certification requirements

RANGE STATEMENT

Applicable procedures and codes may include:

- quality assurance procedures
- emergency procedures
- relevant state/territory regulations and licence/permit requirements pertaining to mobile cranes
- relevant Australian Standards and certification requirements
- relevant state/territory road rules
- relevant state/territory OH&S legislation
- relevant state/territory fatigue management regulations
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field D - Load Handling

TLIJ2003A Apply grain protection measures

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to apply grain protection procedures within grain storage facilities in accordance with workplace procedures including identifying required pest control measures, preparing for application of pest control measures, monitoring application of pest control measures, ventilating fumigated storages, and maintaining records in accordance with workplace requirements. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with regulations and workplace requirements relevant to grain storage operations.

Work is performed under some supervision, generally within a team/group environment. It involves the application of regulatory requirements and workplace procedures when applying grain protection measures as part of grain storage operations in the transport, warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for application of pest control measures	<p>1.1 Legal and workplace requirements for fumigation are followed in accordance with work order</p> <p>1.2 Fumigation/spray application requirements are followed using silo and grain storage information in accordance with manufacturers instructions</p> <p>1.3 Written records are confirmed by site measurements and observations</p> <p>1.4 Access and site specific safety requirements to meet legislation and workplace instructions are determined</p> <p>1.5 Equipment is checked for conformance to workplace requirements and manufacturers specifications</p> <p>1.6 Where applicable, storage is checked for gas-proofing in accordance with manufacturers and workplace instructions prior to fumigation</p>
2 Apply pest control measures	<p>2.1 Personal protective equipment and engineering controls are used as instructed</p> <p>2.2 Fumigant and spray applications are applied in accordance with manufacturers and workplace instructions</p> <p>2.3 Warning signs are placed in accordance with legislative and workplace requirements</p> <p>2.4 Application is monitored to ensure effectiveness of operation</p> <p>2.5 Empty fumigant containers are returned to the manufacturer, retailer or disposed of in accordance with legislative and workplace requirements</p> <p>2.6 Baits are prepared in accordance with legislation and manufacturers instructions</p> <p>2.7 Baits are placed in accordance with site requirements and manufacturers instructions</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Regulations relevant to the application of grain protection measures in grain storage facilities
- Relevant OH&S and environmental protection procedures and guidelines

REQUIRED KNOWLEDGE AND SKILLS

- Workplace procedures and policies for the application of grain protection measures
- Problems that may occur when applying grain protection measures and appropriate action that can be taken to resolve the problems
- Equipment applications, capacities, configurations, safety hazards and control mechanisms
- Characteristics of commodity types, varieties and grades, and their identification
- Emergency response procedures
- Storage and safe handling procedures for fumigants, chemicals and other grain protection materials
- Procedures for environmental control and disposal activities
- Site layout and obstacles

Required skills:

- Communicate effectively with others when applying grain protection measures
- Read and interpret instructions, procedures information and labels relevant to the application of grain protection measures
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the application of grain protection measures
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when applying grain protection measures
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when applying grain protection measures in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unanticipated situations that may arise when applying grain protection measures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the application of grain protection measures
- Plan own work including predicting consequences and identifying improvements
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Set up and maintain grain protection equipment
- Identify, select and efficiently and effectively use equipment needed when applying grain

Required skills:

protection measures

- Identify pests that infest grain in grain storage facilities
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:

EVIDENCE GUIDE

- through activities in an appropriately simulated environment at the registered training organisation, and/or
- in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- | | |
|---|--|
| Work may be conducted: | <ul style="list-style-type: none">• in a range of work environments• by day or night |
| Customers may be: | <ul style="list-style-type: none">• internal or external |
| Workplaces may comprise: | <ul style="list-style-type: none">• large, medium or small worksites |
| Workplace environment may include movement of: | <ul style="list-style-type: none">• equipment• goods• products• materials• vehicular traffic |
| Work is carried out in accordance with: | <ul style="list-style-type: none">• required OH&S procedures• hazard control strategies, including the use of personal protective equipment• manufacturers instructions and labels for the use of fumigants and pest control chemicals |
| Pest control activities may include: | <ul style="list-style-type: none">• spraying• baiting• use of controlled fumigants |
| Fumigation inert gas may be for the purposes of: | <ul style="list-style-type: none">• treating identified pests• for meeting grain quality standards |
| Pest control agents: | <ul style="list-style-type: none">• must be used in accordance with relevant Commonwealth, state or territory legislation |
| Hazards in the work area may include exposure to: | <ul style="list-style-type: none">• chemicals and pesticides• dangerous or hazardous substances• stationary and moving equipment, parts and materials• noise, light, energy sources• electrical equipment |

RANGE STATEMENT

- Personal protective equipment may include:
- humidity, air temperature, radiant heat
 - debris on floor
 - faulty equipment
 - gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - protective clothing
 - respirators and fume/dust masks
 - high visibility clothing
- Requirements for work may include:
- site restrictions and procedures
 - licensing requirements
 - use of safety and personal protective equipment
 - communications/recording equipment
 - authorities and permits
 - emergency procedures
- Communication in the work area may include:
- phone
 - fax
 - email/internet
 - electronic data interchange (EDI)
 - RF systems
 - oral, aural or signed communications
- Consultative processes may involve:
- workplace personnel
 - supervisors and managers
 - existing and potential customers/clients
 - manufacturers of pesticides
 - suppliers and contractors
 - union representatives
 - industrial relations and OH&S specialists
 - maintenance, professional or technical staff
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - workplace procedures
 - organisational procedures
 - established or standard procedures
- Information/documents may include:
- operations manuals, job specifications and procedures
 - induction documentation
 - competency standards and training materials
 - manufacturers specifications, labels and instructions for fumigants, chemicals and equipment
 - material safety data sheets

RANGE STATEMENT

- Applicable regulations and legislation may include:
- workplace operating procedures and policies
 - supplier and/or client instructions
 - Australian and international standards, criteria and certification requirements
 - codes of practice including the National Standards for Manual Handling and the Industry Safety Code
 - relevant regulations including the ADG Code
 - award, workplace bargaining agreement, other industrial arrangements
 - OH&S procedures
 - quality assurance procedures
 - emergency procedures
 - relevant codes and regulations pertaining to grain storage
 - legislation regarding the use of fumigants/poisons
 - ADG Code and regulations pertaining to the storage and handling of dangerous and hazardous goods
 - relevant state/territory OH&S legislation
 - relevant state/territory environmental protection legislation
 - relevant Australian and international standards and certification requirements
 - workplace relations regulations including equal opportunity, equal employment opportunity and affirmative action legislation
 - workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

J - Quality

TLIJ2004A Implement grain monitoring measures

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to implement grain monitoring measures within grain storage facilities in accordance with workplace procedures, including installing and checking grain quality control equipment, and monitoring the quality of stored commodities in accordance with workplace requirements. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with regulations and workplace requirements relevant to grain storage operations.

Work is performed under some supervision, generally within a team/group environment. It involves the application of regulatory requirements and workplace procedures when implementing grain monitoring measures as part of grain storage operations in the transport, warehousing, distribution and/or storage industries.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Install grain quality control equipment	<p>1.1 Procedures for maintaining the quality of stored grain are identified from work plans and considering climatic conditions, types of storage and general environment</p> <p>1.2 Aeration equipment (where required) is installed to workplace and site requirements to maintain appropriate grain temperature and moisture content</p> <p>1.3 Inspection/sampling equipment and procedures are confirmed and implemented in accordance with workplace procedures</p> <p>1.4 Equipment is checked to ensure correct set-up and operation</p> <p>1.5 Equipment is maintained in accordance with workplace requirements and manufacturers instructions</p> <p>1.6 Rectification of faults in equipment is undertaken in accordance with workplace procedures</p>
2 Monitor the quality of stored commodities	<p>2.1 Stored commodities and associated facilities are inspected for signs of damage or potential for damage</p> <p>2.2 Required repairs to facilities are reported to appropriate personnel for action</p> <p>2.3 Monitoring for pest infestations and climatic contamination/damage to grain is regularly completed in accordance with workplace sampling/inspection procedures</p> <p>2.4 Results of sampling/inspections are recorded and reported in accordance with workplace procedures</p> <p>2.5 Follow-up action to protect grain quality is undertaken in accordance with workplace procedures</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Regulations relevant to the implementation of grain monitoring measures in grain storage facilities
- Relevant OH&S and environmental protection procedures and guidelines
- Workplace procedures and policies for the implementation of grain monitoring measures
- Problems that may occur when implementing grain monitoring measures and appropriate action that can be taken to resolve the problems

REQUIRED KNOWLEDGE AND SKILLS

- Equipment applications, capacities, configurations, safety hazards and control mechanisms
- Classification procedures
- Emergency response procedures
- Storage and safe handling procedures
- Procedures for environmental control and disposal activities
- Site layout and obstacles

Required skills:

- Communicate effectively with others when implementing grain monitoring measures
- Read and interpret instructions, procedures, information and labels relevant to the implementation of grain monitoring measures
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the implementation of grain monitoring measures
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when implementing grain monitoring measures
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when implementing grain monitoring measures in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unanticipated situations that may arise when implementing grain monitoring measures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during the implementation of grain monitoring measures
- Plan own work including predicting consequences and identifying improvements
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Set up and maintain grain protection equipment
- Identify, select and efficiently and effectively use equipment needed when implementing grain monitoring measures
- Select and use required personal protective equipment conforming to industry and OH&S standards

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Work may be conducted:
- in a range of work environments
 - by day or night
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Workplace environment may include movement of:
- equipment
 - goods
 - products
 - materials
 - vehicular traffic
- Inspection/sampling processes may include:
- turning
 - visual inspection
 - hand sampling
 - grain sieves
 - robes and spears
 - trapping
- Problems identified in commodities and facilities may include:
- presence of water or water damage
 - presence and activity of pests
 - dead vertebrate pests in stored grain
 - damage or deterioration of storage facility
 - storm damage
 - inappropriate grain temperature and moisture levels
- Types of storage and environment may include:
- permanent and/or temporary storage
 - fixed and/or portable commodity handling equipment
 - site buildings
 - haulage vehicles
 - rail loops
 - walkways and access points in buildings and facilities
 - site surroundings
- Grain aeration involves:
- set-up, maintenance, operational control and dismantling of equipment
- Hazards in the work area may include exposure to:
- chemicals and pesticides
 - dangerous or hazardous substances
 - stationary and moving equipment, parts and materials
 - noise, light, energy sources

RANGE STATEMENT

- electrical equipment
 - humidity, air temperature, radiant heat
 - debris on floor
 - faulty equipment
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - safety glasses
 - two-way radios
 - protective clothing
 - respirators and fume/dust masks
 - high visibility clothing
- Requirements for work may include:
- site restrictions and procedures
 - licensing requirements
 - use of safety and personal protective equipment
 - communications/recording equipment
 - authorities and permits
 - emergency procedures
- Communication in the work area may include:
- phone
 - fax
 - email/internet
 - electronic data interchange (EDI)
 - RF systems
 - oral, aural or signed communications
- Consultative processes may involve:
- workplace personnel
 - supervisors and managers
 - existing and potential customers/clients
 - manufacturers of pesticides
 - suppliers and contractors
 - union representatives
 - industrial relations and OH&S specialists
 - maintenance, professional or technical staff
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - workplace procedures
 - organisational procedures
 - established or standard procedures
- Information/documents may include:
- operations manuals, job specifications and procedures
 - induction documentation
 - competency standards and training materials
 - manufacturers specifications and instructions

RANGE STATEMENT

Applicable regulations and legislation may include:

- material safety data sheets
- workplace operating procedures and policies
- supplier and/or client instructions
- Australian and international standards, criteria and certification requirements
- codes of practice including the National Standards for Manual Handling and the Industry Safety Code
- relevant regulations including the ADG Code
- award, workplace bargaining agreement, other industrial arrangements
- OH&S procedures
- quality assurance procedures
- emergency procedures
- relevant codes and regulations pertaining to grain storage
- legislation regarding the use of fumigants/poisons
- ADG Code and regulations pertaining to the storage and handling of dangerous and hazardous goods
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- relevant Australian and international standards and certification requirements
- workplace relations regulations including equal opportunity, equal employment opportunity and affirmative action legislation
- workers compensation regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

J - Quality

TLIK2010A Use infotechnology devices in the workplace

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to use infotechnology devices in the workplace including identifying infotechnology equipment and systems; setting up and shutting down equipment for use; and inputting, retrieving and presenting files/data in accordance with work requirements. Licensing, legislative, regulatory or certification requirements are not applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with the relevant OH&S regulations and workplace procedures concerning the use of infotechnology equipment in the workplace.

Work is performed under some supervision, generally within a team environment. It involves the application of routine procedures for the use of computers for information management in the transport and logistics industry.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify infotechnology systems	1.1 Types of infotechnology equipment used in the work area are identified 1.2 Functions of equipment, component parts and accessories are identified 1.3 Applications for workplace activities of the different infotechnology equipment and systems are interpreted 1.4 Routine faults in operating systems, software applications and operator errors are identified 1.5 Sources of information on rectifying/reporting faults with operating equipment, systems and application are identified
2 Access and operate computer-based equipment and systems	2.1 Work environments and equipment are adjusted to meet ergonomic requirements and workplace policy and procedures 2.2 Systems are accessed and checked where required for viruses 2.3 Equipment is set up for work requirements in accordance with workplace procedures and manufacturers guidelines 2.4 Operating manuals and/or help screens for infotechnology equipment and software are used to inform work practices 2.5 Software packages and accessories for required application are selected and accessed 2.6 Required file and/or data to be accessed is identified 2.7 Files/data are filed according to workplace 2.8 Shut-down procedures for files, applications and equipment are followed
3 Input, store and present files/data	3.1 Data is entered using appropriate equipment, keyboard/mouse, bar code reader, touch screen or other system 3.2 Accurate input is confirmed 3.3 Files are accessed in accordance with workplace procedures 3.4 Data is manipulated to suit work requirements and checked for accuracy 3.5 Saved files are accessed through relevant directories 3.6 Information and disk(s) are stored where appropriate 3.7 Information is presented using computerised projection facilities where required
4 Implement workplace procedures for management and security of data	4.1 Security procedures are followed in accordance with workplace procedures 4.2 Precautions against the loss or corruption of data are followed in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant OH&S procedures and guidelines concerning the use of computer equipment in the workplace
- OH&S risks and hazards when using computer equipment for work tasks, and ways of controlling the risks/hazards
- Workplace procedures for the use of computer equipment and application software appropriate for work role
- Typical problems that can occur when using infotechnology devices, and computer applications in the workplace and related appropriate action that can be taken to prevent or solve them
- Housekeeping standards and procedures required in the workplace
- Workplace or site layout

Required skills:

- Communicate effectively with others when using infotechnology devices in the workplace
- Read and interpret instructions, procedures, information and manuals relevant to the use of infotechnology devices in the workplace
- Interpret and follow operational instructions and prioritise work
- Access and/or complete electronic documentation through the use of infotechnology devices in the workplace
- Identify and use computer equipment, software, processes and procedures required within the context of the job
- Work collaboratively with others when using infotechnology devices in the workplace
- Promptly report and/or rectify any identified problems, faults or malfunctions that may arise when using infotechnology devices in the workplace in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unanticipated situations that may arise when using infotechnology devices in the workplace including the use of security and backup software and procedures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when using infotechnology devices in the workplace
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or

Required skills:

- damage to goods or equipment
- Adapt to differences in software and equipment in accordance with standard operating procedures
- Maintain eye-hand coordination

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement
- Assessment must include exercises which demonstrate competent performance of the following in a range of situations:
 - correctly operating all infotechnology devices used within the workplace in accordance with operational requirements
 - correctly identifying fault finding procedures

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and

EVIDENCE GUIDE

- Method of assessment**
- operation manuals
 - Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- The operations may be conducted:
- in a range of work environments
 - by day or night
 - in a range of typical weather conditions
- Customers may be:
- internal or external
- Workplaces may comprise:
- large, medium or small worksites
- Work may be conducted:
- in a range of work contexts
- Infotechnology equipment may include:
- keyboards
 - monitors
 - bar code readers
 - printers
 - central processors
 - CD-ROM drives
 - floppy disk drives
 - zip drives
 - USB drives
 - touch screens
 - Personal Digital Assistant (PDA)
 - visual display units
 - desktop computers
 - laptop computers

RANGE STATEMENT

- Computer applications may include:
- radio frequency devices
 - computer driven projectors
 - word processing software
 - inventory control and stock management systems
 - electronic data interchange (EDI) systems
 - information databases and storage systems
 - invoicing and payment systems
 - manifests control systems
 - work organisation systems
 - networks including intranet/internet browsers
 - computerised presentation software
 - computerised control/monitoring systems
- Personnel in the work area may include:
- workplace personnel
 - site visitors
 - contractors
 - official representatives
- Communication in the work area may include:
- phone/mobile phones
 - electronic data interchange (EDI)
 - fax
 - email
 - internet
 - radio
 - oral, aural or signed communications
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Information/documents may include:
- goods identification numbers and codes
 - manifests, bar codes, goods and container identification/serial number
 - manufacturers instructions concerning the use computing equipment
 - workplace procedures and policies for the use of computer equipment
 - supplier and/or client instructions
 - material safety data sheets
 - relevant codes of practice
 - safeworking or other notices
 - relevant legislation, regulations and related documentation
 - award, enterprise bargaining agreement, other industrial

RANGE STATEMENT

Applicable regulations and legislation may include:

- arrangements
- standards and certification requirements
- quality assurance procedures
- emergency procedures
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- workplace relations regulations
- workers compensation regulations
- Dangerous Goods Code and regulations

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

K - Technology

TLILIC2001A Licence to operate a forklift truck

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor	<p>This unit specifies the outcomes required for the operation of a powered industrial truck equipped with a mast and an elevating load carriage to which is attached a pair of fork arms or other attachment, for licensing purposes. This definition also includes a truck on which the operator is raised with the attachment for order-picking.</p>
------------------------	---

Application of the Unit

Application of the Unit	<p>THIS UNIT REQUIRES THE OPERATOR TO BE ABLE PLAN THE WORK, CONDUCT ROUTINE CHECKS ON THE FORKLIFT, SHIFT LOADS IN A SAFE MANNER, AND SHUT DOWN AND SECURE THE EQUIPMENT AFTER THE COMPLETION OF OPERATIONS.</p> <p>This unit is based on the National Standard for Licensing Persons Performing High Risk Work.</p> <p>This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.</p>
--------------------------------	---

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT <i>Elements describe the essential outcomes of a unit of competency.</i>	PERFORMANCE CRITERIA <i>Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.</i>
1. Plan work	1.1 Potential workplace <i>hazards</i> are identified 1.2 <i>Hazard control measures</i> are identified consistent with <i>appropriate standards</i> to ensure the safety of personnel and equipment 1.3 Appropriate <i>forklift</i> truck is selected according to the load and workplace conditions 1.4 Working area is inspected to determine appropriate path of movement for loads and forklift truck 1.5 <i>Communication methods</i> are identified according to <i>procedures</i>
2. Conduct routine checks	2.1 Forklift is visually checked for any damage or defects 2.2 All <i>signage and labels</i> are visible and legible according to the <i>appropriate standard</i> 2.3 All controls are located and identified 2.4 <i>Pre-start operational checks</i> are carried out according to <i>procedures</i> 2.5 <i>Forklift</i> is started according to <i>procedures</i> and checked for any abnormal noise 2.6 <i>Post-start operational checks</i> are carried out according to <i>procedures</i> 2.7 All forklift functions and safety devices are tested to their maximum according to <i>procedures</i> 2.8 Defects and damage are reported and recorded according to <i>procedures</i> , and appropriate action is taken
3. Shift load	3.1 The weight of load is assessed to ensure compliance with <i>forklift</i> truck data plate specifications 3.2 Appropriate <i>hazard prevention/control measures</i> are implemented and communicated with personnel in the work area 3.3 <i>Forklift</i> is operated at a safe speed and according to <i>procedures</i> 3.4 Loads are moved and placed to ensure stability of material and avoidance of hazards

	<p>3.5 Load movement is monitored constantly ensuring safety to personnel and load, and structural stability</p> <p>3.6 <i>Unplanned and/or unsafe situations</i> are responded to in line with <i>procedures</i></p>
4. Shut down and secure forklift truck	<p>4.1 <i>Forklift</i> truck is parked to avoid hazards</p> <p>4.2 Forklift is <i>shut down</i> according to <i>procedures</i></p> <p>4.3 Routine post-operational forklift checks are carried out according to <i>procedures</i></p> <p>4.4 Forklift is secured to prevent unauthorised access/use</p> <p>4.5 All defects and damage are reported and recorded according to <i>procedures</i>, and appropriate action is taken</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Required skills:

- Accurately interpret information relating to conducting forklift truck operations (e.g. procedures)
- Safely conduct forklift truck operations including all functions to the maximum height and load capacity
- Identify hazards associated with the operation of the forklift truck, assess risks and put into place effective hazard prevention/control measures for those hazards identified
- Use communication skills at a level sufficient to communicate with other site personnel (e.g. receive and interpret work instructions, safety information, emergency procedures)
- Drive forklift with load in forward and reverse, maintaining visibility
- Verify problems and equipment faults and demonstrate appropriate response procedures

Required knowledge:

- Methodology of determining the weight of a load
- Commonwealth, state or territory OH&S legislation, standards relevant to the safe operation for the forklift trucks
- Understanding of forklift characteristics and capabilities (including use of load data plates)
- Understanding of the hierarchy of hazard identification and control
- Organisational and workplace standards, requirements, policies and procedures for

REQUIRED SKILLS AND KNOWLEDGE

- conducting operations for the crane class
- Procedures for the recording, reporting and maintenance of workplace records and information
- Forklift truck operations and safe operating techniques
- Typical routine problems encountered in the operation of the crane and equipment and adjustments required for correction

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for the Training Package.

Overview of assessment	<ul style="list-style-type: none"> • Successful assessment of this unit meets the competency requirement of the National Standard for Licensing Persons Performing High Risk Work. • State/territory OH&S regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OH&S matters.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<ul style="list-style-type: none"> • Compliance with OH&S licensing legislation. • Communicate and work safely with others in the work area. • Identify hazards associated with the operation of the forklift truck and put in place effective hazard controls for those hazards identified. • Conduct pre-start-up, operational, moving loads and shut down and secure checks of the forklift truck according to procedures. • Operate the forklift truck and move loads safely, including driving and manoeuvring, picking up and placing of loads at various stack heights. • Drive forklift truck with load in forward and reverse, maintaining visibility.
Context of and specific resources for assessment	<ul style="list-style-type: none"> • Assessment of the safe application of knowledge and skills to workplace tasks (performance) must be undertaken using the endorsed Assessment Instrument.

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting. • Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints. • Applicants must have access to: <ul style="list-style-type: none"> • Personal Protective Equipment (PPE) for the purpose of the Performance Assessment • associated equipment appropriate to forklift truck operations • suitable loads as described by the endorsed Assessment Instrument • manufacturers specifications • appropriate forklift truck in a safe condition.
Method of assessment	<ul style="list-style-type: none"> • Assessment must be conducted using the endorsed Assessment Instrument. These Instruments provide instruction on their application. • The use of 'simulators' in the assessment of this unit of competency is not acceptable. • Assessment may be in conjunction with the assessment of other units of competency. • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstance, but is able to be transferred to other circumstances.
Guidance information for assessment	<ul style="list-style-type: none"> • Further information about endorsed Assessment Instruments may be obtained from state/territory OH&S regulators.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.

RANGE STATEMENT	
Hazards	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • ground conditions (e.g. condition of pavement, slopes) • overhead hazards (e.g. powerlines, service pipes) • insufficient lighting • traffic (e.g. pedestrians, vehicles, other plant) • weather (e.g. wind, lightning, rain) • forklift instability (e.g. overloading, poor load placement, irregular loads) • other hazards (e.g. dangerous materials)
Hazard control measures	<p>Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls</p> <p>It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk:</p> <ol style="list-style-type: none"> 1 elimination 2 substitution 3 isolation 4 engineering control measures 5 using safe work practices 6 personal protective equipment
Appropriate standards	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • legislation • Australian standards • manufacturer's specifications • industry standards (where applicable)
Forklift truck	<p>May include but not be limited to:</p> <ul style="list-style-type: none"> • counterbalanced • reach trucks • rough terrain • internal combustion petrol, diesel, gas • electric
Communications methods	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • verbal and non-verbal language • written instructions • signage

RANGE STATEMENT	
	<ul style="list-style-type: none"> • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol
Procedures	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • manufacturer's guidelines (instructions, specifications or checklists) • industry operating procedures • workplace procedures (work instructions, operating procedures, checklists)
Pre-start operational checks	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • safety devices fitted where appropriate • forklift data plate fitted and interpreted • logbook, handbook or operating manuals available • external visual check including, evidence of damage, leaks, visual evidence of structural weaknesses (including paint separation or stressed welds) is carried out • forklift attachment is checked for security • approved modifications and/or attachments fitted to manufacturer's specifications (e.g. as per forklift or attachment data plate) are identified • checks for adaptations or modifications outside manufacturer's specifications (e.g. not listed on the forklift or attachment data plate) are carried out • maintenance logbook/records checked
Post-start operational checks	<p>May include checks of the forklift truck and equipment after start-up to ensure:</p> <ul style="list-style-type: none"> • hazard warning systems (for example lights and horns), are functional • attachment movements and control functions are smooth and comply with operating requirements • steering, transmission and brake functions comply with operating requirements
Hazard prevention/control measures	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • barricades and traffic control • safety tags on electrical switches/isolators

RANGE STATEMENT	
	<ul style="list-style-type: none"> • insulated powerlines • safety observer used inside exclusion zone • disconnected power • pedestrian control (barricades, signs, etc.) • excavation safeguards • movement of obstructions • personal protective equipment • adequate illumination
Unplanned and/or unsafe situations	<p>May include but not limited:</p> <ul style="list-style-type: none"> • failure/loss of control (e.g. brakes and steering) • failure of equipment (e.g. hydraulic system) • environmental condition
Shut down	<p>May include, but is not limited to:</p> <ul style="list-style-type: none"> • parking in a suitable location away from dangerous areas • fork arms are correctly positioned (tips down, tilted forward, lowered to ground) • appropriate transmission/gear is selected for parking (relevant to transmission type) • hand/parking brake is applied • engine power is turned off • ignition key is removed (if applicable) • LPG gas cylinder valve is shut off (where fitted) • securing equipment against unauthorised operation • securing the site • ensuring access ways are clear • identifying and segregating defective equipment and reporting to authorised personnel • batteries are connected to the charger (if applicable)

Unit Sector(s)

Not Applicable

TLILIC2014A Licence to drive light rigid vehicle

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to obtain a licence to drive a light rigid vehicle. It includes systematic and efficient control of all vehicle functions, monitoring of traffic and road conditions, management of vehicle condition and performance and effective management of hazardous situations. Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant Heavy Vehicle Driver Licensing Authority.

Application of the Unit

Application of the Unit

Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority pertaining to light rigid vehicles.

Driving is performed with limited or minimum supervision, and with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain the safety and operation of a light rigid vehicle across a variety of driving contexts.

Licensing/Legislative Requirements

The primary legislative requirements applicable to this unit of competency are State/Territory legislation in relation to road use and driver licensing.

This unit addresses the underlying knowledge and skills necessary for the granting of a Light Rigid Driver Licence. Drivers may require additional training to drive particular vehicles of the class or in particular contexts.

Obtaining this competency is a necessary requirement for obtaining a Light Rigid Driver Licence. However, it is only one of several criteria for obtaining the licence. Prospective licence applicants should check with the State/Territory driver licensing authority for other criteria (for example: licence tenure and medical fitness) to confirm compliance with other eligibility requirements before undertaking training and/or assessment

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Drive the light rigid vehicle	<p>1.1 The light rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturers instructions</p> <p>1.2 Engine power is managed to ensure efficiency and performance and to minimise engine and transmission damage</p> <p>1.3 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving</p> <p>1.4 The light rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning</p> <p>1.5 The light rigid vehicle is parked, shut down and secured in accordance with traffic regulations, safe&secure.</p> <p>1.6 Appropriate procedures are followed in the event of a driving emergency</p>
2 Monitor traffic and road conditions	<p>2.1 Traffic and road conditions are constantly monitored and acted upon to enable safe operation and ensure no injury to people or damage to property, equipment, loads and facilities</p> <p>2.2 Interaction with other road users is conducted courteously and in accordance with road rules to ensure safe and efficient traffic flow</p>
3 Monitor and maintain vehicle performance	<p>3.1 Vehicle performance is maintained through pre-operational inspections and checks of the vehicle</p> <p>3.2 Appropriate signage, lights and the like are checked for operational effectiveness and for conformity to prescribed traffic regulations</p> <p>3.3 Performance and efficiency of vehicle operation is monitored during use</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant road rules, regulations, permit and licence requirements of the relevant state/territory road traffic authority
- Relevant OH&S and environmental procedures and regulations
- Light rigid vehicle controls, instruments and indicators and their use

REQUIRED KNOWLEDGE AND SKILLS

- Light rigid vehicle handling procedures
- Driving hazards and related defensive driving techniques
- Procedures to be followed in the event of a driving emergency
- Engine power management and safe driving strategies
- Efficient driving techniques
- Pre-operational checks carried out on vehicle and related action
- Differences between transmission types
- Factors which may cause traffic delays and diversions and related action that can be taken by a driver
- Principles of stress management when driving a vehicle
- Causes and effects of fatigue on drivers
- Fatigue management strategies including on-road techniques

Required skills:

- Communicate effectively with others when driving a light rigid vehicle
- Read and interpret instructions, procedures, information and signs relevant to the driving of a light rigid vehicle
- Complete documentation related to the driving of a light rigid vehicle
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when driving a light rigid vehicle
- Apply fatigue management knowledge and techniques
- Monitor and anticipate traffic hazards and take appropriate action
- Carry out pre-operational checks on the vehicle

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills

EVIDENCE GUIDE

- relevant legislation
 - other relevant aspects of the range statement
 - Assessment of competency for this unit must be subject to the successful completion of the Mandatory Assessment Instrument as approved by the Licensing Authority.
 - Performance is demonstrated consistently over a period of time and in a suitable range of contexts
 - Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations on road or in the workplace
 - In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
 - Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.
 - The mandatory assessment tool provided by the Licensing Authority must be used to conduct the final assessment.
 - The Licensing Authority may prescribe approved routes which must be used for the conduct of the final assessment.
- Context of and specific resources for assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations on road or in the workplace
 - Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing
- Method of assessment**

EVIDENCE GUIDE

Authority. The use of simulators for driver testing is not permitted.

- The assessor must use the mandatory assessment tool provided by the Licensing Authority to conduct the assessment for this unit in accordance with Licensing Authority requirements

EXCEPTION

- Where the candidate is already the holder of a valid Australian driver licence of the Light Rigid class, the Licensing Authority has already deemed the candidate to be competent against this standard for the purposes of issuing a driver licence. In this case the requirement to conduct the assessment using the Mandatory Assessment Instrument provided by the Licensing Authority is waived and the assessor may use any suitable process and materials for conducting the assessment.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Type of vehicle includes:

- all light rigid vehicles including trucks and buses greater than 4.5 tonnes or seating more than 12 adults including the driver

Driving may be carried out in typical road transport situations, including:

- operations conducted at day or night
- typical weather conditions
- on the open road
- on a private road
- while at a depot, base or warehouse
- while at a client's workplace or work site

Driving must be carried out in typical road transport situations, including:

- negotiating hills
- negotiating a range of more complex traffic infrastructure (for example; roundabouts, traffic lights, stalemate intersections, level crossings of railways)

Vehicle handling procedures may include:

- starting a vehicle
- steering and manoeuvring a vehicle
- accelerating and braking
- positioning and stopping a vehicle

RANGE STATEMENT

- Pre-operational checks may include:
- reversing a vehicle
 - operating vehicle controls, instruments and indicators
 - using defensive driving techniques
 - managing engine performance
 - visual check of vehicle
 - checking and topping up of fluid levels
 - checks of tyre pressures
 - checks of operation of vehicle lights and indicators
 - checks of brakes
- Driving hazards may include (examples only):
- wet and iced roads
 - oil on road
 - animals and objects on road
 - fire in vehicle
 - leaking fuel
 - faulty brakes
 - parked vehicles on the road
 - faulty steering mechanism on vehicle
 - pedestrians crossing the road
 - flooded sections of road
 - windy sections of road
 - foggy conditions
- Factors that can cause traffic delays and diversions may include (examples only):
- traffic accidents
 - flooded sections of road
 - road damage
 - bridge/tunnel damage
 - road works
 - building construction
 - emergency situations such as bushfires, building fires, etc.
 - road closures for special events such as marches, parades, etc.
 - holiday traffic
 - road closures for utility works such as electricity, water, sewerage, telecommunications, gas, etc.
- Documentation/records may include:
- state/territory light rigid vehicle driving licence requirements
 - vehicle log book or record book (where required)
- Applicable procedures and codes may include:
- relevant state/territory roads and traffic authority driving regulations and licence requirements pertaining to light rigid vehicles
 - relevant state/territory road rules

RANGE STATEMENT

- relevant state/territory permit regulations and requirements
- relevant state/territory OH&S legislation
- relevant state/territory fatigue management regulations
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field LIC - Licensing Units

TLILIC2015A Licence to drive medium rigid vehicle

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to obtain a licence to drive a medium rigid vehicle. It includes systematic and efficient control of all vehicle functions, monitoring of traffic and road conditions, management of vehicle condition and performance and effective management of hazardous situations. Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant Heavy Vehicle Driver Licensing Authority.

Application of the Unit

Application of the Unit

Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority pertaining to medium rigid vehicles.

Driving is performed with limited or minimum supervision, with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain the safety and operation of a medium rigid vehicle across a variety of driving contexts.

Licensing/Legislative Requirements

The primary legislative requirements applicable to this unit of competency are State/Territory legislation in relation to road use and driver licensing.

This unit addresses the underlying knowledge and skills necessary for the granting of a Medium Rigid Driver Licence. Drivers may require additional training to drive particular vehicles of the class or in particular contexts.

Obtaining this competency is a necessary pre-requisite for obtaining a Medium Rigid Driver Licence. However, it is only one of several criteria for obtaining the licence. Prospective licence applicants should check with the State/Territory driver licensing authority for other criteria (for example: licence tenure and medical fitness) to confirm compliance with other eligibility requirements before undertaking training and/or assessment.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Drive the medium rigid vehicle	<p>1.1 The medium rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturers instructions</p> <p>1.2 Engine power is managed to ensure efficiency and performance and to minimise engine and transmission damage</p> <p>1.3 Braking system of medium rigid vehicle is managed and operated to ensure effective control of the vehicle under all conditions</p> <p>1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving</p> <p>1.5 The medium rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning</p> <p>1.6 The medium rigid vehicle is parked, shut down and secured in accordance with traffic regulations, safe&secure.</p> <p>1.7 Load is safely and effectively restrained</p> <p>1.8 Where required, overwidth and overweight permit applications are undertaken in accordance with relevant regulatory requirements</p> <p>1.9 Appropriate procedures are followed in the event of a driving emergency</p>
2 Monitor traffic and road conditions	<p>2.1 An appropriate route of travel is observed taking into account prescribed routes.</p> <p>2.2 Traffic and road conditions are constantly monitored and acted upon to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities</p> <p>2.3 Interaction with other road users is conducted courteously and in accordance with road rules to ensure safe and efficient traffic flow</p>
3 Monitor and maintain vehicle performance	<p>3.1 Vehicle performance is maintained through pre-operational inspections and checks of the vehicle</p> <p>3.2 Appropriate signage, lights and the like are checked for operational effectiveness and for conformity to prescribed traffic regulations</p> <p>3.3 Performance and efficiency of vehicle operation is monitored during use</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant road rules, regulations, permit and licence requirements of the relevant state/territory road traffic authority
- Relevant OH&S and environmental procedures and regulations
- Medium rigid vehicle controls, instruments and indicators and their use
- Medium rigid vehicle handling procedures
- Procedures to be followed in the event of a driving emergency
- Engine power management and safe driving strategies
- Efficient driving techniques
- Driving hazards and related defensive driving techniques
- Pre-operational checks carried out on vehicle and related action
- Differences between transmission types
- Principles of operation of air brakes and procedures for their use
- Principles of stress management when driving a vehicle
- Map reading and navigation of the vehicle and related action (including prescribed routes)
- Factors which may cause traffic delays and diversions and related action that can be taken by a driver
- Causes and effects of fatigue on drivers
- Fatigue management strategies including on-road techniques

Required skills:

- Communicate effectively with others when driving a medium rigid vehicle
- Read and interpret instructions, procedures, information and signs relevant to the driving of a medium rigid vehicle
- Complete documentation related to the driving of a medium rigid vehicle
- Apply fatigue management knowledge and techniques
- Monitor performance of equipment
- Monitor and anticipate traffic hazards and take appropriate action
- Carry out pre-operational checks on a medium rigid vehicle

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation
 - other relevant aspects of the range statement
- Assessment of competency for this unit must be subject to the successful completion of the Mandatory Assessment Instrument as approved by the Licensing Authority.

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations on road or in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including regulations, codes of practice and operation manuals
- The mandatory assessment tool provided by the Licensing Authority must be used to conduct the final assessment.
- The Licensing Authority may prescribe approved routes which must be used for the conduct of the final assessment.
- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests

EVIDENCE GUIDE

- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations on road or in the workplace
- The assessor must use the mandatory assessment tool provided by the Licensing Authority to conduct the assessment for this unit in accordance with Licensing Authority requirements
- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

EXCEPTION

Where the candidate is already the holder of a valid Australian driver licence of the Medium Rigid class, the Licensing Authority has already deemed the candidate to be competent against this standard for the purposes of issuing a driver licence. In this case the requirement to conduct the assessment using the Mandatory Assessment Instrument provided by the Licensing Authority is waived and the assessor may use any suitable process and materials for conducting the assessment.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Type of vehicle includes:

- all medium rigid vehicles, for example any 2-axle rigid vehicle, including truck and bus greater than 8 tonnes GVM

Driving may be carried out in typical road transport situations, including:

- operations conducted at day or night
- typical weather conditions
- on the open road
- on a private road
- while at a depot, base or warehouse
- while at a client's workplace or work site

RANGE STATEMENT

Driving must be carried out in typical road transport situations, including:

- negotiating hills
- negotiating a range of more complex traffic infrastructure (for example; roundabouts, traffic lights, stalemate intersections, level crossings of railways)

Vehicle handling procedures may include:

- starting a vehicle
- steering and manoeuvring a vehicle
- accelerating and braking
- positioning and stopping a vehicle
- reversing a vehicle
- operating vehicle controls, instruments and indicators
- using air brakes
- using defensive driving techniques
- managing engine performance

Pre-operational checks may include:

- visual check of vehicle
- checking and topping up of fluid levels
- checks of tyre pressures
- checks of operation of vehicle lights and indicators
- checks of brakes

Driving hazards may include (examples only):

- wet and iced roads
- oil on road
- animals and objects on road
- fire in vehicle
- leaking fuel
- faulty brakes
- parked vehicles on the road
- faulty steering mechanism on vehicle
- pedestrians crossing the road
- flooded sections of road
- windy sections of road
- foggy conditions

Factors that can cause traffic delays and diversions may include:

- traffic accidents
- flooded sections of road
- road damage
- bridge/tunnel damage
- road works
- building construction
- emergency situations such as bushfires, building fires, etc.
- road closures for special events such as marches, parades, etc.
- holiday traffic

RANGE STATEMENT

Documentation/records may include:

Applicable procedures and codes may include:

- road closures for utility works such as electricity, water, sewerage, telecommunications, gas, etc.
- state/territory medium rigid vehicle driving licence requirements
- vehicle log book or record book (where required)
- relevant state/territory roads and traffic authority driving regulations and licence requirements pertaining to medium rigid vehicles
- relevant state/territory road rules
- relevant state/territory permit regulations and requirements
- relevant state/territory OH&S legislation
- relevant state/territory fatigue management regulations
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

LIC - Licensing Units

TLILIC2016A Licence to drive heavy rigid vehicle

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to obtain a licence to drive a heavy rigid vehicle. It includes systematic and efficient control of all vehicle functions, monitoring of traffic and road conditions, management of vehicle condition and performance and effective management of hazardous situations. Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant Heavy Vehicle Driver Licensing Authority.

Application of the Unit

Application of the Unit

Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority pertaining to heavy rigid vehicles.

Driving is performed with limited or minimum supervision, with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain the safety and operation of a heavy rigid vehicle across a variety of driving contexts.

Licensing/Legislative Requirements

The primary legislative requirements applicable to this unit of competency are State/Territory legislation in relation to road use and driver licensing.

This unit addresses the underlying knowledge and skills necessary for the granting of a Heavy Rigid Driver Licence. Drivers may require additional training to drive particular vehicles of the class or in particular contexts.

Obtaining this competency is a necessary pre-requisite for obtaining a Heavy Rigid Driver Licence. However, it is only one of several criteria for obtaining the licence. Prospective licence applicants should check with the State/Territory driver licensing authority for other criteria (for example: licence tenure and medical fitness) to confirm compliance with other eligibility requirements before undertaking training and/or assessment.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Drive the heavy rigid vehicle	<p>1.1 The heavy rigid vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturers instructions</p> <p>1.2 Engine power is managed to ensure efficiency and performance and to minimise engine and gear damage</p> <p>1.3 Braking system of heavy rigid vehicle is managed and operated to ensure effective control of the vehicle under all conditions</p> <p>1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving</p> <p>1.5 The heavy rigid vehicle is driven in reverse, maintaining visibility and achieving accurate positioning.</p> <p>1.6 The heavy rigid vehicle is parked, shut down and secured in accordance with traffic regulations, safe and secure</p> <p>1.7 Load is safely and effectively restrained</p> <p>1.8 Where required, overwidth and overweight permit applications are undertaken in accordance with relevant regulatory requirements</p> <p>1.9 Appropriate procedures are followed in the event of a driving emergency</p>
2 Monitor traffic and road conditions	<p>2.1 An appropriate route of travel is observed taking into account prescribed routes.</p> <p>2.2 Traffic and road conditions are constantly monitored and acted upon to enable safe operation and ensure no injury to people or damage to property, equipment loads and facilities</p> <p>2.3 Interaction with other road users is conducted courteously and in accordance with road rules to ensure safe and efficient traffic flow</p>
3 Monitor and maintain vehicle performance	<p>3.1 Vehicle performance is maintained through pre-operational inspections and checks of the vehicle</p> <p>3.2 Appropriate signage, lights and the like are checked for operational effectiveness and for conformity to prescribed traffic regulations</p> <p>3.3 Performance and efficiency of vehicle operation is monitored during use</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant road rules, regulations, permit and licence requirements of the relevant state/territory road traffic authority
- Relevant OH&S and environmental procedures and regulations
- Heavy rigid vehicle controls, instruments and indicators and their use
- Heavy rigid vehicle handling procedures
- Procedures to be followed in the event of a driving emergency
- Engine power management and safe driving strategies
- Efficient driving techniques
- Pre-operational checks carried out on heavy rigid vehicle and related action
- Differences between transmission types
- Principles of operation of air brakes and procedures for their use
- Map reading and navigation of the vehicle and related action (including prescribed routes)
- Driving hazards and related defensive driving techniques
- Principles of stress management when driving a vehicle
- Factors which may cause traffic delays and diversions and related action that can be taken by a driver
- Causes and effects of fatigue on drivers
- Fatigue management strategies and on-road techniques

Required skills:

- Communicate effectively with others when driving a heavy rigid vehicle
- Read and interpret instructions, procedures, information and signs relevant to when the driving of a heavy rigid vehicle
- Complete documentation related to the driving of a heavy rigid vehicle
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when driving a heavy rigid vehicle
- Monitor and anticipate traffic hazards and take appropriate action
- Apply fatigue management knowledge and techniques
- Monitor performance of the vehicle and its equipment and take appropriate action where required
- Carry out pre-operational checks

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation
 - other relevant aspects of the range statement
- Assessment of competency for this unit must be subject to the successful completion of the Mandatory Assessment Instrument as approved by the Licensing Authority

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations on road or in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including regulations, codes of practice and operation manuals
- The mandatory assessment tool provided by the Licensing Authority must be used to conduct the final assessment.
- The Licensing Authority may prescribe approved routes which must be used for the conduct of the final assessment
- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation

EVIDENCE GUIDE

- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations on road or in the workplace
- The assessor must use the mandatory assessment tool provided by the Licensing Authority to conduct the assessment for this unit in accordance with Licensing Authority requirements
- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

EXCEPTION

Where the candidate is already the holder of a valid Australian driver licence of the Heavy Rigid class, the Licensing Authority has already deemed the candidate to be competent against this standard for the purposes of issuing a driver licence. In this case the requirement to conduct the assessment using the Mandatory Assessment Instrument provided by the Licensing Authority is waived and the assessor may use any suitable process and materials for conducting the assessment.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- | | |
|---|--|
| Type of vehicle includes: | <ul style="list-style-type: none"> • all heavy rigid vehicles, for example any rigid vehicle with 3 or more axles, including trucks or buses, greater than 8 tonnes GVM |
| Driving may be carried out in typical road transport situations, including: | <ul style="list-style-type: none"> • operations conducted at day or night • typical weather conditions • on the open road • on a private road • while at a depot, base or warehouse • while at a client's workplace or work site |
| Driving must be carried out in typical road transport situations, | <ul style="list-style-type: none"> • negotiating hills • negotiating a range of more complex traffic infrastructure (for example; roundabouts, traffic lights, stalemate |

RANGE STATEMENT

- including: intersections, level crossings of railways)
- Vehicle handling procedures may include:
- starting a vehicle
 - steering and manoeuvring a vehicle
 - accelerating and braking
 - positioning and stopping a vehicle
 - reversing a vehicle
 - operating vehicle controls, instruments and indicators
 - using air brakes
 - using defensive driving techniques
 - managing engine performance
- Pre-operational checks may include:
- visual check of vehicle
 - checking and topping up of fluid levels
 - checks of tyre pressures
 - checks of operation of vehicle lights and indicators
 - checks of brakes
- Driving hazards may include (examples only):
- wet and iced roads
 - oil on road
 - animals and objects on road
 - fire in vehicle
 - leaking fuel
 - faulty brakes
 - parked vehicles on the road
 - faulty steering mechanism on vehicle
 - pedestrians crossing the road
 - flooded sections of road
 - windy sections of road
 - foggy conditions
- Factors that can cause traffic delays and diversions may include:
- traffic accidents
 - flooded sections of road
 - road damage
 - bridge/tunnel damage
 - road works
 - building construction
 - emergency situations such as bushfires, building fires, etc.
 - road closures for special events such as marches, parades, sporting events, etc
 - holiday traffic
 - road closures for utility works such as electricity, water, sewerage, telecommunications, gas, etc.
- Documentation/records may
- state/territory heavy rigid vehicle driving licence and

RANGE STATEMENT

include:

permit requirements

- vehicle log book or record book (where required)
- relevant standards and certification requirements
- relevant state/territory roads and traffic authority driving regulations and licence/permit requirements pertaining to heavy rigid vehicles
- relevant state/territory road rules
- relevant state/territory permit regulations and requirements
- relevant state/territory OH&S legislation
- relevant state/territory fatigue management regulations
- relevant state/territory environmental protection legislation

Applicable procedures and codes may include:

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

LIC - Licensing Units

TLILIC3006A Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity)

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor	This unit specifies the outcomes required to operate a mobile crane of greater than 3 tonnes capacity that incorporates a boom or jib which includes articulated type mobile cranes and locomotive cranes, but does not include vehicle tow trucks, for licensing purposes.
------------------------	---

Application of the Unit

Application of the Unit	<p>This unit requires the operator to plan the work, conduct routine checks, set up crane, transfer loads, mobile loads, and shut down and secure the crane.</p> <p>This unit is based on the requirements of the National Standard for Licensing Persons Performing High Risk Work.</p> <p>This unit in its current form meets state and territory licensing requirements. Any alteration will result in a unit which is not acceptable to regulators for the purpose of licensing.</p>
--------------------------------	--

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

<p>ELEMENT</p> <p><i>Elements describe the essential outcomes of a unit of competency.</i></p>	<p>PERFORMANCE CRITERIA</p> <p><i>Performance criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.</i></p>
<p>1. Plan work</p>	<p>1.1 1.1 Potential workplace <i>hazards</i> are identified</p> <p>1.2 <i>Hazard control measures</i> are identified consistent with <i>appropriate standards</i> to ensure the safety of personnel and equipment</p> <p>1.3 The weight of the load is identified and estimated in consultation with <i>associated personnel</i></p> <p>1.4 <i>Crane</i> is <i>appropriate</i> to the load/s and workplace conditions</p> <p>1.5 The appropriate path for the movement of loads in the work area is inspected and determined</p> <p>1.6 Appropriate <i>communication methods</i> are identified with <i>associated personnel</i></p>
<p>2. Conduct routine checks</p>	<p>2.1 Crane is visually checked for any damage or defects</p> <p>2.2 <i>Crane</i> is accessed in a safe manner</p> <p>2.3 All <i>signage and labels</i> are visible and legible according to the <i>appropriate standard</i></p> <p>2.4 Routine pre-operational crane checks are carried out according to <i>procedures</i></p> <p>2.5 All controls are located and identified</p> <p>2.6 Crane <i>service logbook</i> is checked for compliance</p> <p>2.7 Crane is started according to <i>procedures</i> and checked for any abnormal noises</p> <p>2.8 All <i>crane safety devices</i> are tested according to <i>procedures</i></p> <p>2.9 Pos-start operational checks are carried out according to <i>procedures</i></p> <p>2.10 All <i>communication equipment</i> is checked for serviceability</p> <p>2.11 All damage and defects are reported and recorded according to <i>procedures</i>, and appropriate action is taken</p>
<p>3. Set up crane</p>	<p>3.1 <i>Ground suitability</i> is checked</p> <p>3.2 <i>Crane</i> is driven to the work area according to <i>procedures</i></p>

	<p>3.3 Crane is positioned for work application and stability according to procedures</p> <p>3.4 Appropriate crane configuration for work task is determined according to procedures (where applicable)</p> <p>3.5 Boom/jib and counterweight configuration data is input into the crane computer (where applicable)</p> <p>3.6 Appropriate hazard prevention/control measures are applied to the work area according to procedures</p> <p>3.7 All communications equipment is tested for functionality</p>
<p>4. Transfer load</p>	<p>4.1 Lifts are determined within the capacity of the crane</p> <p>4.2 Boom/jib and hoist block is positioned over load following directions from associated personnel</p> <p>4.3 Test lift is carried out according to procedures</p> <p>4.4 Loads are transferred using all relevant crane movements according to procedures and the appropriate standard</p> <p>4.5 All required communication signals are correctly interpreted according to procedures and the appropriate standard</p> <p>4.6 Crane is operated according to procedures</p> <p>4.7 Load movement is monitored constantly ensuring safety to personnel and load, and crane stability</p> <p>4.8 Unplanned and/or unsafe situations are responded to in line with procedures</p>
<p>5. Mobile load</p>	<p>5.1 Suitability of planned route is checked for the crane according to procedures</p> <p>5.2 Crane is configured to mobile load according to procedures</p> <p>5.3 Load is moved using best mobile practice according to the appropriate standard</p>
<p>6 Shut down and secure crane</p>	<p>6.1 Crane boom/jib and equipment is stowed and secured, where appropriate, according to procedures and the appropriate standard</p> <p>6.2 Relevant motion locks and brakes are applied (where applicable)</p> <p>6.3 Outriggers/stabilisers are stowed and secured according to procedures (where applicable)</p> <p>6.4 Crane is shut down according to procedures</p> <p>6.5 Routine post-operational crane checks are carried</p>

	<p>out according to <i>procedures</i></p> <p>6.6 Plates or packing are stowed and secured (where applicable)</p> <p>6.7 All damage and defects are recorded and reported according to <i>procedures</i>, and appropriate action is taken</p>
--	--

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- Accurately record and maintain information relating to crane operations
- Use communication techniques in the workplace including whistles, hand signals and use of two-way radios
- Use communication skills at a level sufficient to communicate with other site personnel
- Assessment of ground conditions to confirm that the site is suitable (e.g. firm, level and safe) to operate crane
- Operate crane including all functions to their maximum extension in the lifting and moving of loads to the safe working rated capacity in conjunction with other associated personnel
- Mobile loads using best mobile practice
- Apply risk assessment and hazard control strategies, including hierarchy of control as applied to the positioning and safe operation of the crane (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions, crane tipping and demolition sites)
- Use and interpret crane manufacturer's specifications and data, including load charts to enable the crane to be configured for the load
- Verify problems and equipment faults and demonstrate appropriate response procedures

Required knowledge:

- Appropriate mathematical procedures for estimation and measurement of loads
- Commonwealth, state or territory OH&S legislation, standards and codes of practice relevant to the full range of processes for the crane class
- Ability to read and comprehend manufacturer's instructions, procedures and safety signs
- Understanding of crane characteristics and capabilities (including use of load charts) to allow the configuration of the crane to suit the range of loads

REQUIRED SKILLS AND KNOWLEDGE

- Understanding of the hierarchy of hazard identification and control
- Organisational and workplace standards, requirements, policies and procedures for conducting operations for the crane class
- Procedures for the recording, reporting and maintenance of workplace records and information
- Typical routine problems encountered in the operation of the crane and equipment and adjustments required for correction

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for the Training Package.

Overview of assessment

Successful assessment of this unit meets the competency requirement of the National Standard for Licensing Persons Performing High Risk Work.

State/territory OH&S regulators have mandated the use of Assessment Instruments and Instructions for Assessment for this unit which have been endorsed by the national body responsible for OH&S matters.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Compliance with OH&S licensing legislation.
- Communicate and work safely with others in the work area.
- Risk assessment and management procedures (particular awareness of the risks associated with overhead powerlines/electrical cables, ground conditions, crane tipping, other vehicles and personnel).
- Operation of a non-slewing mobile crane including all functions to their maximum extension in the lifting and moving of loads to the safe working rated capacity of non-slewing mobile cranes (over 3t capacity) in conjunction with other associated personnel.
- Appropriate mathematical procedures for estimation of loads.

Context of and specific

- Assessment of the safe and effective application of knowledge and skill to workplace tasks

EVIDENCE GUIDE	
resources for assessment	<p>(performance) must be undertaken using the endorsed Assessment Instrument.</p> <ul style="list-style-type: none"> • Assessment of performance must be undertaken either in the workplace or in a realistically simulated workplace setting. • Assessors must ensure that the assessment in the workplace is organised to ensure that all the required equipment and materials and a suitable working area is made available to suit the assessment and the workplace. • Assessment must occur under standard and authorised work practices, safety requirements and environmental constraints. • Assessment is to comply with relevant appropriate standard requirements. • Applicants must have access to: <ul style="list-style-type: none"> • Personal Protective Equipment (PPE) for the purpose of the Performance Assessment • appropriate non-slewing crane (greater than 3 tonnes) and associated equipment in safe condition • suitable loads as specified by endorsed assessment instrument • communication equipment (e.g. two-way radios, whistles, etc.) • other associated personnel to sling and direct the loads.
Method of assessment	<ul style="list-style-type: none"> • Assessment must be conducted using the endorsed Assessment Instruments. These Instruments provide advice on their application. • The use of 'simulators' in the assessment of this unit of competency is not acceptable. • Assessment may be in conjunction with the assessment of other units of competency. • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge. • Assessment must confirm a reasonable inference that competency is not only able to be satisfied under the particular circumstances, but is able to be transferred to other circumstances.
Guidance information for	<ul style="list-style-type: none"> • Further information about endorsed Assessment Instruments may be obtained from state/territory

EVIDENCE GUIDE	
assessment	OH&S regulators.

Range Statement

RANGE STATEMENT	
<i>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below.</i>	
Hazards	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • ground stability (e.g. ground condition, recently filled trenches, slopes) • overhead hazards (e.g. powerlines, service pipes) • insufficient lighting • traffic (e.g. pedestrians, vehicles, other plant) • environmental conditions (e.g. wind, lightning, storms, etc.) • other specific hazards (e.g. dangerous materials)
Hazard control measures	<p>Refers to the systematic process of eliminating or reducing the risk to personnel and property through the application of controls</p> <p>It includes the application of the hierarchy of control, the six-step preference of control measures to manage and control risk:</p> <ol style="list-style-type: none"> 1 elimination 2 substitution 3 isolation 4 engineering control measures 5 using safe work practices 6 personal protective equipment
Appropriate standards	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • codes of practice • legislation • Australian standards • manufacturer's specifications • industry standards (where applicable)

RANGE STATEMENT	
Associated personnel	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • doggers • riggers
Appropriate	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • crane capabilities • environmental conditions (e.g. wind, lightning, storms, etc.)
Crane	<p>May include:</p> <ul style="list-style-type: none"> • a crane (greater than 3 tonnes capacity) which meets the requirements of AS1418 • articulated type mobile cranes • locomotive cranes <p>Does not include vehicle tow truck operations</p>
Communication method	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • verbal and non-verbal language • written instructions • signage • hand signals • listening • questioning to confirm understanding • appropriate worksite protocol
Signage and labels	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • crane data plates/labels • load charts • crane decals • control labels
Procedures	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • manufacturer's guidelines (instructions, specifications, operators manual or checklists) • industry operating procedures • workplace procedures (work instructions, operating procedures, checklists)
Controls	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • luffing levers • hoisting and lowering levers • slewing levers including brake

RANGE STATEMENT	
	<ul style="list-style-type: none"> boom extension levers (where fitted)
Service logbook	<p>May include but not limited to:</p> <ul style="list-style-type: none"> any logbook service book history record system where the service and maintenance history is kept
Crane safety devices	<p>May include but not limited to:</p> <ul style="list-style-type: none"> horns/sirens audible and visual reversing devices operator restraint devices lights
Communication equipment	<p>May include but not limited to:</p> <ul style="list-style-type: none"> fixed channel two-way radios whistles bells buzzers <p>NB: where radio communication equipment is used the transmitting frequencies of the equipment must be selected to prevent interference to or from other radio equipment being used in the vicinity of the crane</p>
Ground suitability	<p>May include but not limited to:</p> <ul style="list-style-type: none"> rough uneven ground backfilled ground soft soils hard compacted soil rock bitumen concrete
Stability	<p>May include but not limited to:</p> <ul style="list-style-type: none"> deploying outriggers establishing correct size plates or packing correctly positioning plates or packing
Crane configuration	<p>May include but not be limited to:</p> <ul style="list-style-type: none"> boom/jib fly-jib counterweights

RANGE STATEMENT	
Hazard prevention/control measures	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • safety tags on electrical switches/isolators • insulated powerlines • safety observer used inside exclusion zone • disconnected power • traffic barricades and control/s • pedestrian controls • trench covers • movement of obstructions • personal protective equipment • adequate illumination
Test lift	<p>The load is lifted just clear of the lifting plane to allow for checks to be safely made in consultation with associated personnel to ensure that:</p> <ul style="list-style-type: none"> • near capacity loads do not overload the crane • loads of unusual shape or weight distribution are correctly slung • load measuring equipment can be used to verify the calculated weight of the load • all crane equipment is functioning properly • adjustments to the slinging can be made in a safe manner
Relevant crane movements	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • telescope in and out • boom/jib up and down • articulating (as applicable) • raise and lower hoist (as applicable)
Communication signals	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • stop - hand • stop - whistle • hoist up - hand • hoist up - whistle • hoist down - hand • hoist down - whistle • luff boom down - hand • luff boom down - whistle • luff boom up - hand • luff boom up - whistle

RANGE STATEMENT	
	<ul style="list-style-type: none"> • telescope out - hand • telescope out - whistle • telescope in - hand • telescope in - whistle • slew/articulate right - hand • slew/articulate right - whistle • slew/articulate left - hand • slew/articulate left - whistle
Unplanned and/or unsafe situations	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • failure/loss of control (e.g. brakes and steering) • failure of equipment (e.g. hydraulic system) • environmental conditions (e.g. wind, lightning, storms, etc.)
Planned route	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • unusual or difficult terrains • obstacles or obstruction
Best mobile practice	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • minimum speed • gentle acceleration and braking (to minimise load swing) • minimum boom/jib length • carrying the load near to the ground surface • use of handheld taglines
Shut down	<p>May include but not limited to:</p> <ul style="list-style-type: none"> • retracting boom/jib/fly (where applicable) • retracting hoist rope and hook block • idling engine to stabilise temperature • retracting outriggers/stabilisers (where applicable) • turning off engine

Unit Sector(s)

Not Applicable

TLILIC3017A Licence to drive heavy combination vehicle

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to obtain a licence to drive a heavy combination vehicle. It includes systematic and efficient control of all vehicle functions, monitoring of traffic and road conditions, management of vehicle condition and performance, coupling and uncoupling of trailer, and effective management of hazardous situations. Assessment of this unit will be undertaken within a licensing examination conducted by, or under the authority of, the relevant Heavy Vehicle Driver Licensing Authority.

Application of the Unit

Application of the Unit

Driving must be carried out in compliance with the licence requirements and regulations of the relevant state/territory roads and traffic authority pertaining to heavy combination vehicles.

Driving is performed with limited or minimum supervision, with limited accountability and responsibility for self and others in achieving the prescribed outcomes.

Driving involves the application of routine vehicle driving principles and procedures to maintain the safety and operation of a heavy combination vehicle across a variety of driving contexts.

Licensing/Legislative Requirements

The primary legislative requirements applicable to this unit of competency are State/Territory legislation in relation to road use and driver licensing.

This unit addresses the underlying knowledge and skills necessary for the granting of a Heavy Combination Driver Licence. Drivers may require additional training to drive particular vehicles of the class or in particular contexts.

Obtaining this competency is a necessary pre-requisite for obtaining a Heavy Combination Driver Licence. However, it is only one of several criteria for obtaining the licence. Prospective licence applicants should check with the State/Territory driver licensing authority for other criteria (for example: licence tenure and medical fitness) to confirm compliance with other eligibility requirements before undertaking training and/or assessment.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1 Drive the heavy combination vehicle

- 1.1 The heavy combination vehicle is started, steered, manoeuvred, positioned and stopped in accordance with traffic regulations and manufacturers instructions
- 1.2 Engine power is managed to ensure efficiency and performance and to minimise engine and gear damage
- 1.3 Braking system of heavy combination vehicle is managed and operated to ensure effective control of the vehicle under all conditions
- 1.4 Driving hazards are identified and/or anticipated and avoided or controlled through defensive driving
- 1.5 The heavy combination vehicle is driven in reverse, maintaining visibility and achieving accurate positioning
- 1.6 The heavy combination vehicle is parked, uncoupled, shut down and secured in accordance with traffic regulations, safe and secure
- 1.7 Load is safely and effectively restrained
- 1.8 Where required, overwidth and overweight permit applications are undertaken in accordance with relevant regulatory requirements
- 1.9 Appropriate procedures are followed in the event of a driving emergency

2 Monitor traffic and road conditions

- 2.1 An appropriate route of travel is observed taking into account prescribed routes.
- 2.2 Traffic and road conditions are constantly monitored and acted upon to enable safe operation and ensure no injury to people or damage to property, equipment loads and facilities
- 2.3 Interaction with other road users is conducted courteously and in accordance with road rules to ensure safe and efficient traffic flow

3 Monitor and maintain vehicle performance

- 3.1 Vehicle performance is maintained through pre-operational inspections and checks of the vehicle
- 3.2 Appropriate signage, lights and the like are checked for operational effectiveness and for conformity to prescribed traffic regulations
- 3.3 Prime mover and trailer are correctly aligned and coupled
- 3.4 Coupled vehicle is checked and tested to ensure it is correctly secured and to confirm that it is fully operational
- 3.5 Performance and efficiency of vehicle operation is monitored during use

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant road rules, regulations, permit and licence requirements of the relevant state/territory road traffic authority
- Relevant OH&S and environmental procedures and regulations
- Heavy combination vehicle controls, instruments and indicators and their use
- Heavy combination vehicle handling procedures
- Procedures to be followed in the event of a driving emergency
- Engine power management and safe driving strategies
- Efficient driving techniques
- Pre-operational checks carried out on heavy combination vehicle and related action
- Differences between transmission types
- Principles of operation of air brakes and procedures for their use
- Driving hazards and related defensive driving techniques
- Map reading and navigation of the vehicle and related action (including prescribed routes)
- Factors which may cause traffic delays and diversions and related action that can be taken by a driver
- Principles of stress management when driving a vehicle
- Causes and effects of fatigue on drivers
- Fatigue management strategies including on-road techniques

Required skills:

- Communicate effectively with others when driving a heavy combination vehicle
- Read and interpret instructions, procedures, information and signs relevant to the driving of a heavy combination vehicle
- Complete documentation related to the driving of a heavy combination vehicle
- Monitor and anticipate traffic hazards and take appropriate action
- Modify activities depending on differing operational contingencies, risk situations and environments
- Apply fatigue management knowledge and techniques
- Apply map reading and road navigation techniques to the operation of a heavy combination vehicle
- Monitor performance of vehicle, its trailers and its equipment and take appropriate action

Required skills:

where required

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation
 - other relevant aspects of the range statement
- Assessment of competency for this unit must be subject to the successful completion of the Mandatory Assessment Instrument as approved by the Licensing Authority.

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations on road or in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including regulations, codes of practice and operation manuals
- The mandatory assessment tool provided by the Licensing Authority must be used to conduct the final assessment.
- The Licensing Authority may prescribe approved routes which must be used for the conduct of the final assessment.

EVIDENCE GUIDE

Method of assessment

- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.
- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations on road or in the workplace
- Practical driving aspects must be assessed in a vehicle typical of the class as approved by the Licensing Authority. The use of simulators for driver testing is not permitted.

EXCEPTION

Where the candidate is already the holder of a valid Australian driver licence of the Heavy Combination class, the Licensing Authority has already deemed the candidate to be competent against this standard for the purposes of issuing a driver licence. In this case the requirement to conduct the assessment using the Mandatory Assessment Instrument provided by the Licensing Authority is waived and the assessor may use any suitable process and materials for conducting the assessment.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Type of vehicle includes:

- all heavy combination vehicles that may be driven on public and private roads and work sites

Driving may be carried out in typical road transport situations,

- operations conducted at day or night
- typical weather conditions

RANGE STATEMENT

including:

- on the open road
- on a private road
- while at a depot, base or warehouse
- while at a client's workplace or work site

Driving must be carried out in typical road transport situations, including:

- negotiating hills
- negotiating a range of more complex traffic infrastructure (for example; roundabouts, traffic lights, stalemate intersections, level crossings of railways)

Vehicle handling procedures may include:

- starting a vehicle
- steering and manoeuvring a vehicle
- accelerating and braking
- positioning and stopping a vehicle
- reversing a vehicle
- operating vehicle controls, instruments and indicators
- using air brakes
- using defensive driving techniques
- managing engine performance

Pre-operational checks may include:

- visual check of vehicle
- checking and topping up of fluid levels
- checks of tyre pressures
- checks of operation of vehicle lights and indicators
- checks of brakes
- checks of coupling equipment

Driving hazards may include (examples only):

- wet and iced roads
- oil on road
- animals and objects on road
- fire in vehicle
- leaking fuel
- faulty brakes
- parked vehicles on the road
- faulty steering mechanism on vehicle
- pedestrians crossing the road
- flooded sections of road
- windy sections of road
- foggy conditions

Factors that can cause traffic delays and diversions may include (examples only):

- traffic accidents
- flooded sections of road
- road damage
- bridge/tunnel damage
- road works

RANGE STATEMENT

- Documentation/records may include:
- Applicable procedures and codes may include:
- building construction
 - emergency situations such as bushfires, building fires, etc.
 - road closures for special events such as marches, parades, sporting events, etc.
 - holiday traffic
 - road closures for utility works such as electricity, water, sewerage, telecommunications, gas, etc.
 - state/territory heavy combination vehicle driving licence/permit requirements
 - vehicle log book or record book (where required)
 - relevant state/territory roads and traffic authority driving regulations and licence requirements pertaining to heavy combination vehicles
 - relevant state/territory road rules
 - relevant state/territory permit regulations and requirements
 - relevant state/territory OH&S legislation
 - relevant state/territory fatigue management regulations
 - relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field LIC - Licensing Units

TLIP2029A Prepare and process financial documents

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to prepare and process financial documents, including recording and balancing petty cash transactions, balancing all other transactions, rectifying discrepancies as directed, preparing invoices for debtors, and preparing and process banking documents. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be must be carried out in compliance with the relevant financial codes of practice and regulations.

Work is performed under general supervision. It involves the application of routine principles and procedures to prepare and process financial documents.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Record and balance petty cash transactions	1.1 Petty cash vouchers are prepared in accordance with workplace procedures 1.2 Petty cash claims and vouchers are checked for accuracy and authenticity before processing 1.3 Petty cash transactions are recorded 1.4 Irregularities are noted and referred to nominated person/section in accordance with workplace procedures
2 Balance all transactions	2.1 Transactions are presented to nominated person/section for checking in accordance with workplace procedures 2.2 Invoices for payment to creditors are reconciled in accordance with workplace procedures 2.3 Discrepancies between invoices and delivery notes/service agreements are identified and reported for resolution in accordance with workplace procedures 2.4 Errors in invoice charges are identified and corrective action is undertaken within scope of authority in accordance with workplace procedures
3 Rectify discrepancies as directed	3.1 Correct and authorised invoices are processed for payment and, where required, entered into financial records 3.2 Creditor enquiries are resolved within scope of authority or referred to other personnel in accordance with workplace procedures
4 Prepare invoices for debtors	4.1 Preparatory calculations are performed to produce accurate invoices 4.2 Relevant documentation is completed to ensure accuracy of contents 4.3 Invoices are distributed to nominated personnel for verification prior to despatch 4.4 Verified invoices are despatched within designated timelines 4.5 Verified figures are entered into financial journals 4.6 Documents are filed for auditing purposes and, if required, follow-up action
5 Prepare and process banking documents	5.1 Financial transactions are listed on deposit forms in accordance with financial institution's requirements 5.2 Pay-in documentation is balanced with all financial calculations 5.3 Financial institution deposit totals are balanced with internal records 5.4 Deposits are lodged with the financial institution

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant financial regulations, codes and procedures including pertinent taxation documentation requirements
- Relevant OH&S and environmental procedures and regulations
- Workplace procedures for the preparing and processing of financial documents
- Contacts and sources of information/documentation needed for the preparation and processing of financial documents
- Customer service policies and procedures
- Documentation requirements of banking institutions, governments and other relevant agencies
- Typical problems that can occur when preparing and processing financial documents and appropriate action that can be taken to prevent or solve them

Required skills:

- Communicate effectively with others when preparing and processing financial documents
- Read and interpret instructions, procedure and information relevant to the preparation and processing of financial documents
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the preparation and processing of financial documents
- Operate electronic communication equipment to required protocol
- Perform required calculations both manually and with the aid of relevant equipment and calculators
- Work collaboratively with others when preparing and processing financial documents
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may arise when preparing and processing financial documents in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unanticipated situations that may occur when preparing and processing financial documents
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail

Required skills:

- Select and use relevant equipment when preparing and processing financial documents, including the use of an appropriate range of office equipment, computer systems and financial software packages
- Adapt to differences in equipment in accordance with standard operating procedures

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:

EVIDENCE GUIDE

- through activities in an appropriately simulated environment at the registered training organisation, and/or
- in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted in:

- a range of organisations in the transport, warehousing, distribution and/or storage industries and may be conducted by day or night

Customers may be:

- internal or external

Requirements for work may include:

- site restrictions and procedures
- use of safety and personal protective equipment
- specified loading operations
- communications equipment
- hours of operation
- authorities and permits
- financial regulations and processes
- privacy and security procedures

Processing of financial documents may include:

- recording and balancing petty cash transactions
- balancing all transactions
- rectifying discrepancies as directed
- preparing invoices for debtors
- preparing and processing banking documents

Lodgement of transactions with financial institutions may include:

- electronic banking
- manual processes including the use of third parties

Preparation of documentation is undertaken:

- within scope of authority

Business source documents may include:

- electronic banking
- requisitions
- orders
- service statements
- invoices and receipts

RANGE STATEMENT

- despatch and receipt notes
 - credit notes
 - statements
 - sales tax statements
 - consignment notes
- Communications systems may involve:
- telephone
 - fax
 - email
 - electronic data transfer of information (EDI)
 - mail
- Consultative processes may involve:
- other employees and supervisors
 - suppliers, potential customers and existing clients
 - relevant authorities
 - banking institutions
 - other agencies
 - management and union representatives
 - OH&S specialists
 - other maintenance, professional or technical staff
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - workplace procedures
 - organisational procedures
 - established procedures
- Documentation/records may include:
- operations manuals, job specifications and procedures and induction documentation
 - guidelines concerning relevant financial regulations, codes and procedures including relevant taxation requirements
 - competency standards and training materials
 - manufacturers/client specifications, instructions and labelling advice including material safety data sheets
 - workplace operating procedures and policies
 - supplier and/or client instructions
 - Australian and international standards, criteria and certification requirements
 - communications technology equipment, oral, aural or signed communications
 - OH&S procedures
 - quality assurance procedures
 - security procedures
- Applicable regulations and legislation may include:
- relevant financial regulations, codes and procedures including relevant taxation requirements
 - Australian and international standards and certification

RANGE STATEMENT

requirements

- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- international transport regulations, codes and procedures

Unit Sector(s)

Not Applicable

Competency Field**Competency Field**

P - Administration and Finance